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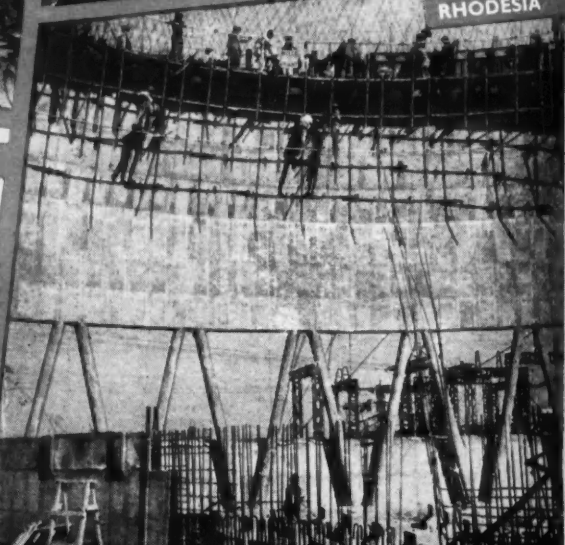
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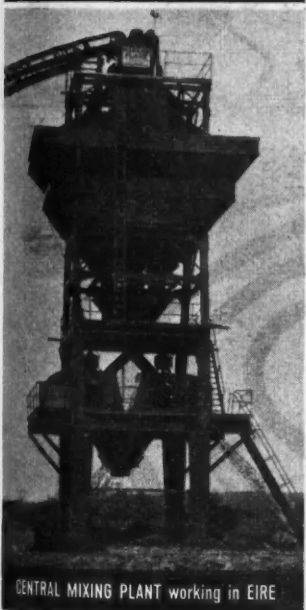
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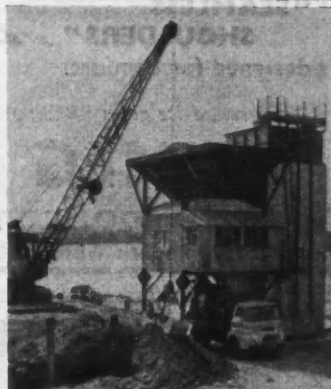


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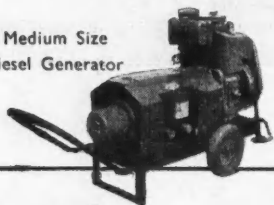
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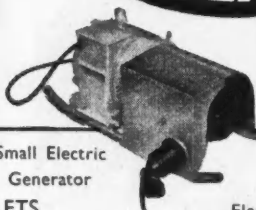


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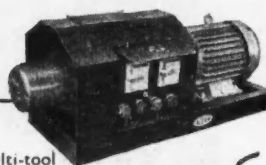
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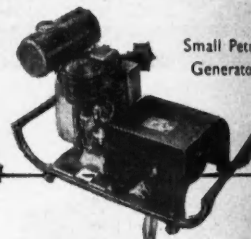
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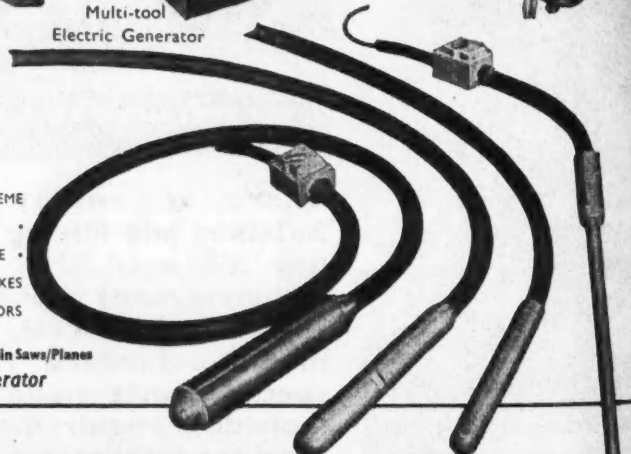
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The theme of this year's exhibition is 'Better Technical Information' and a special conference is being held where the aims and objects of technical literature will be discussed by builders, architects, sub-contractors, builders' merchants and advertising agents.

*

With the publications by the RIBA of the SfB Filing Manual, The Building Exhibition provides an opportunity to find out more about the SfB system of classification for the building industry.

*

On this occasion the whole of the National Hall and part of the Empire Hall will be devoted to Contractors' Plant and Building Machinery and there will again be a comprehensive display of wood-working machinery.

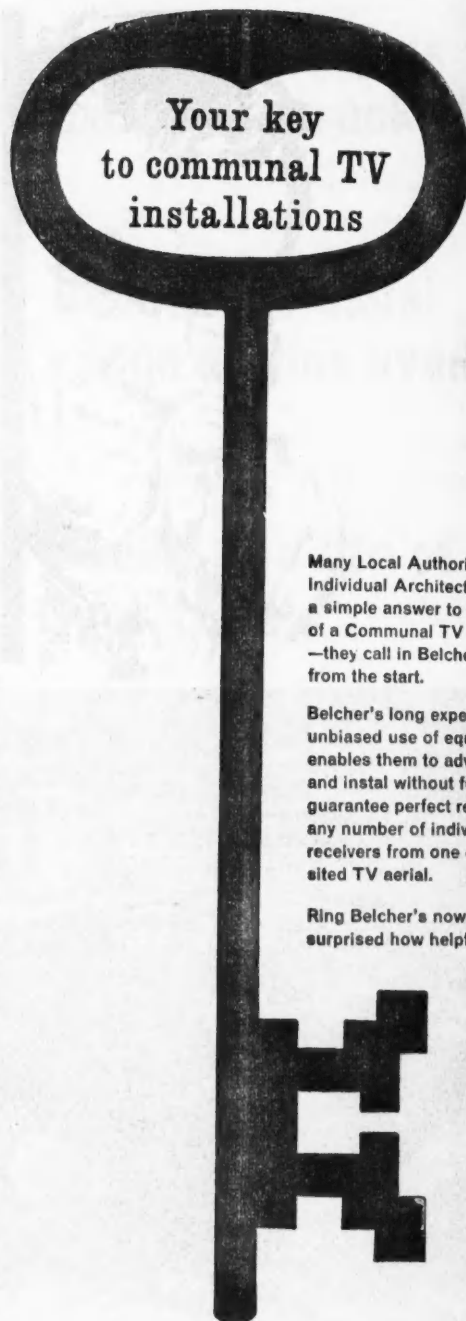
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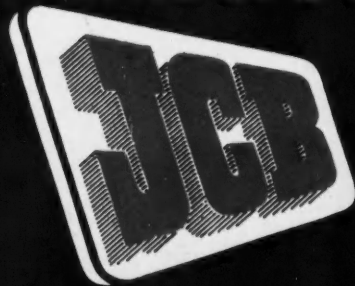


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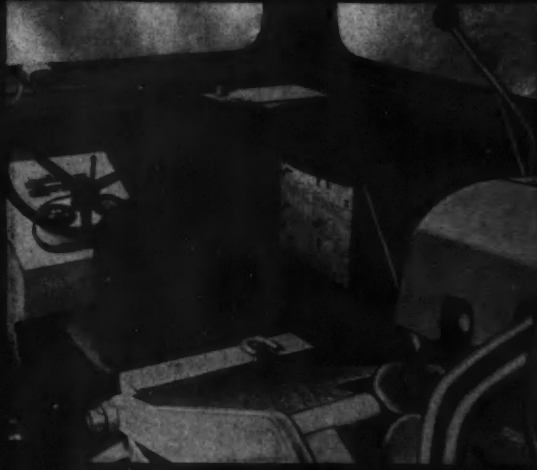
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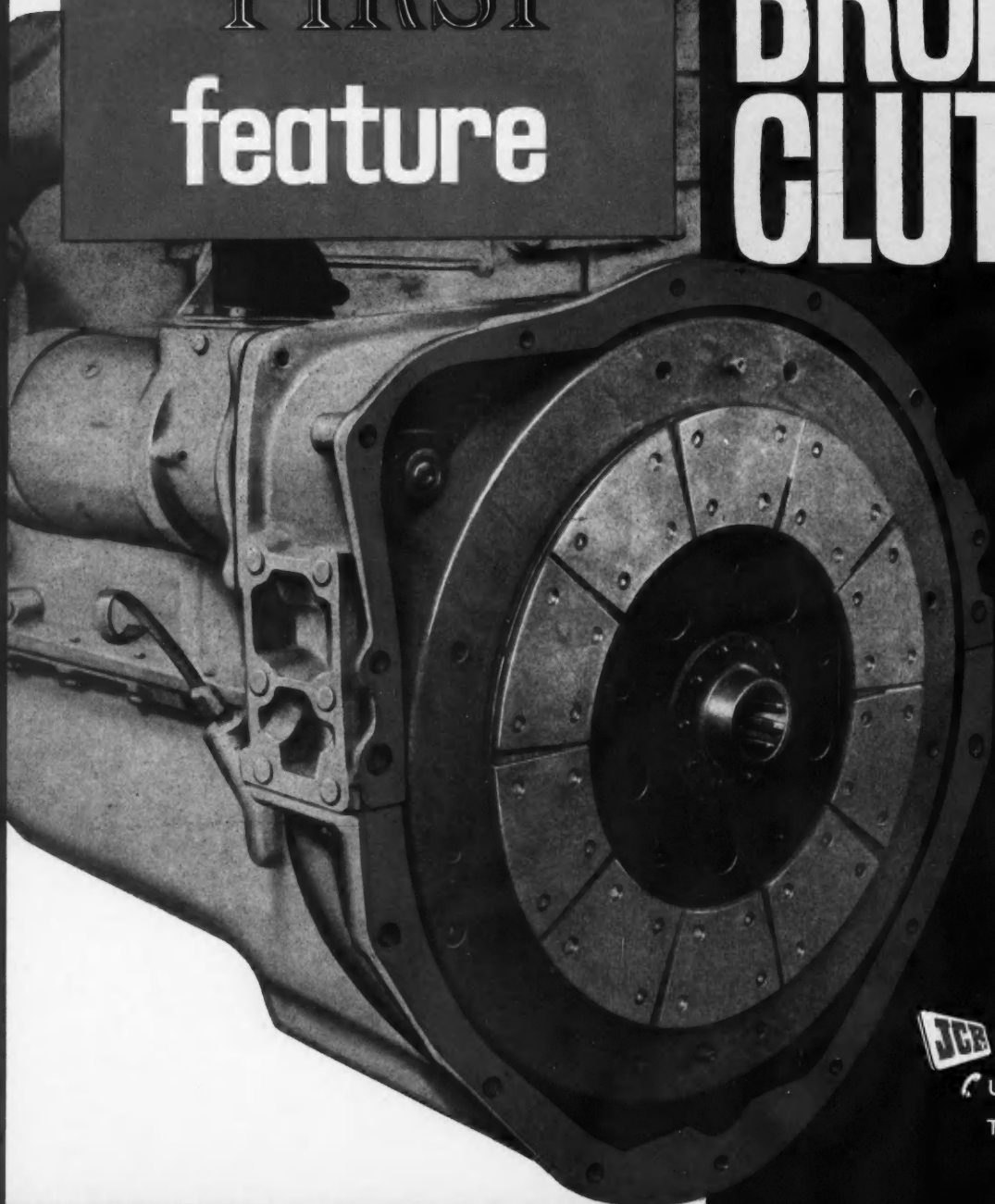
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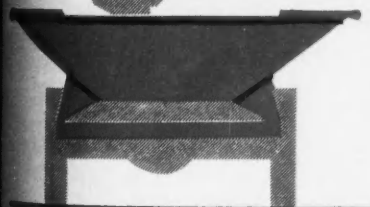


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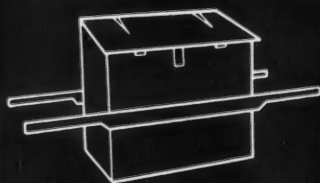
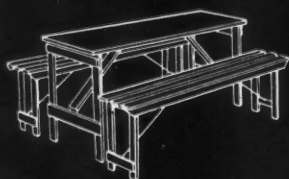
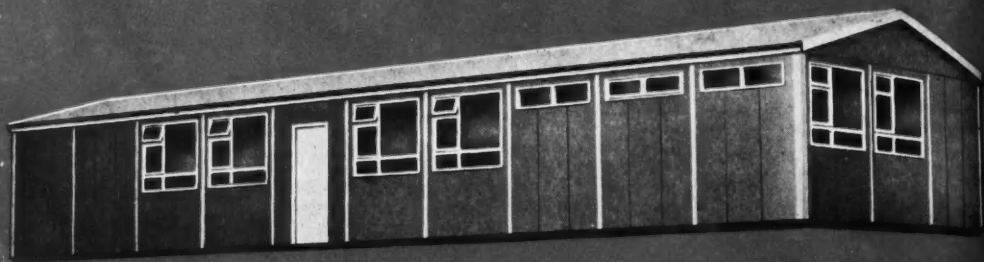


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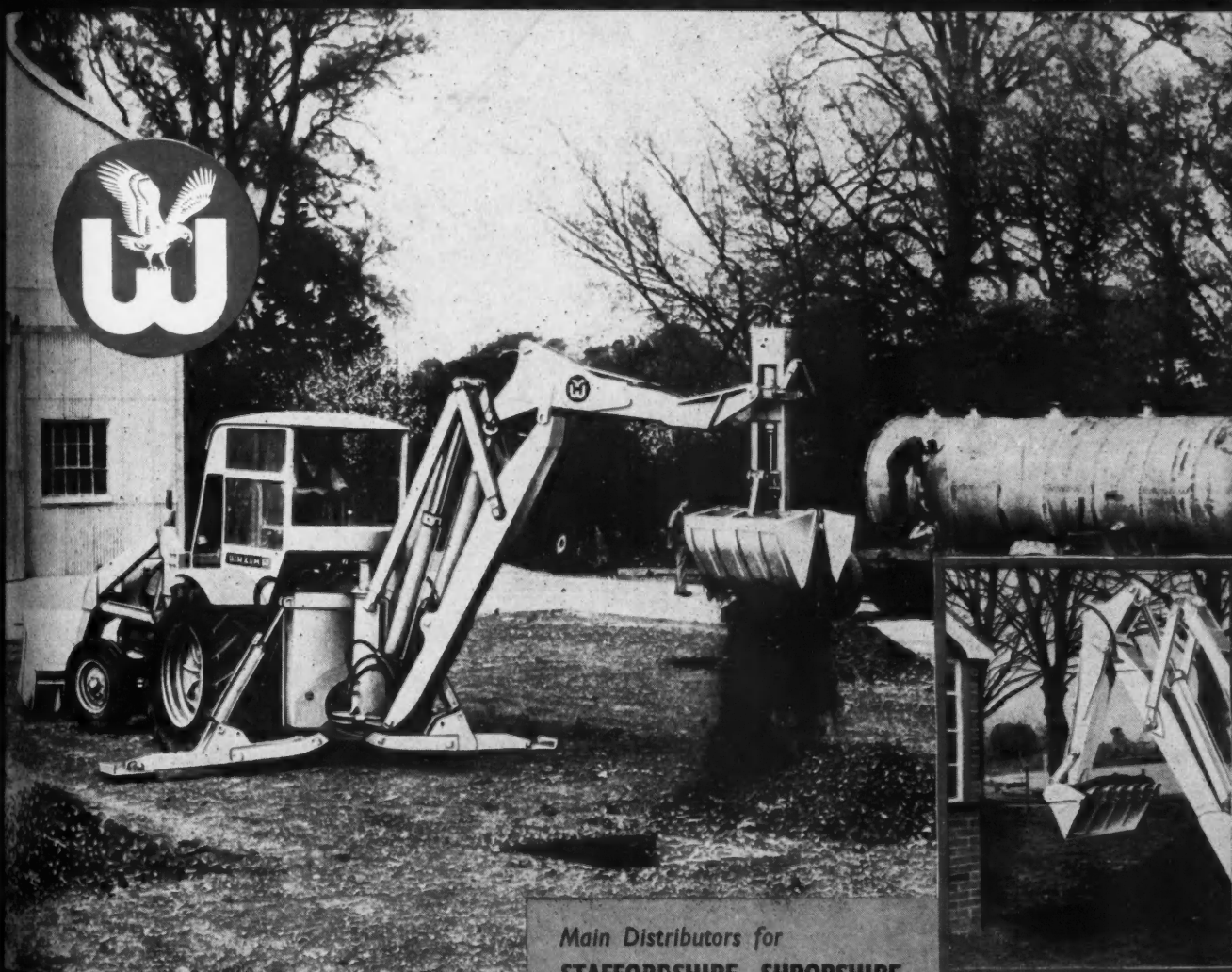
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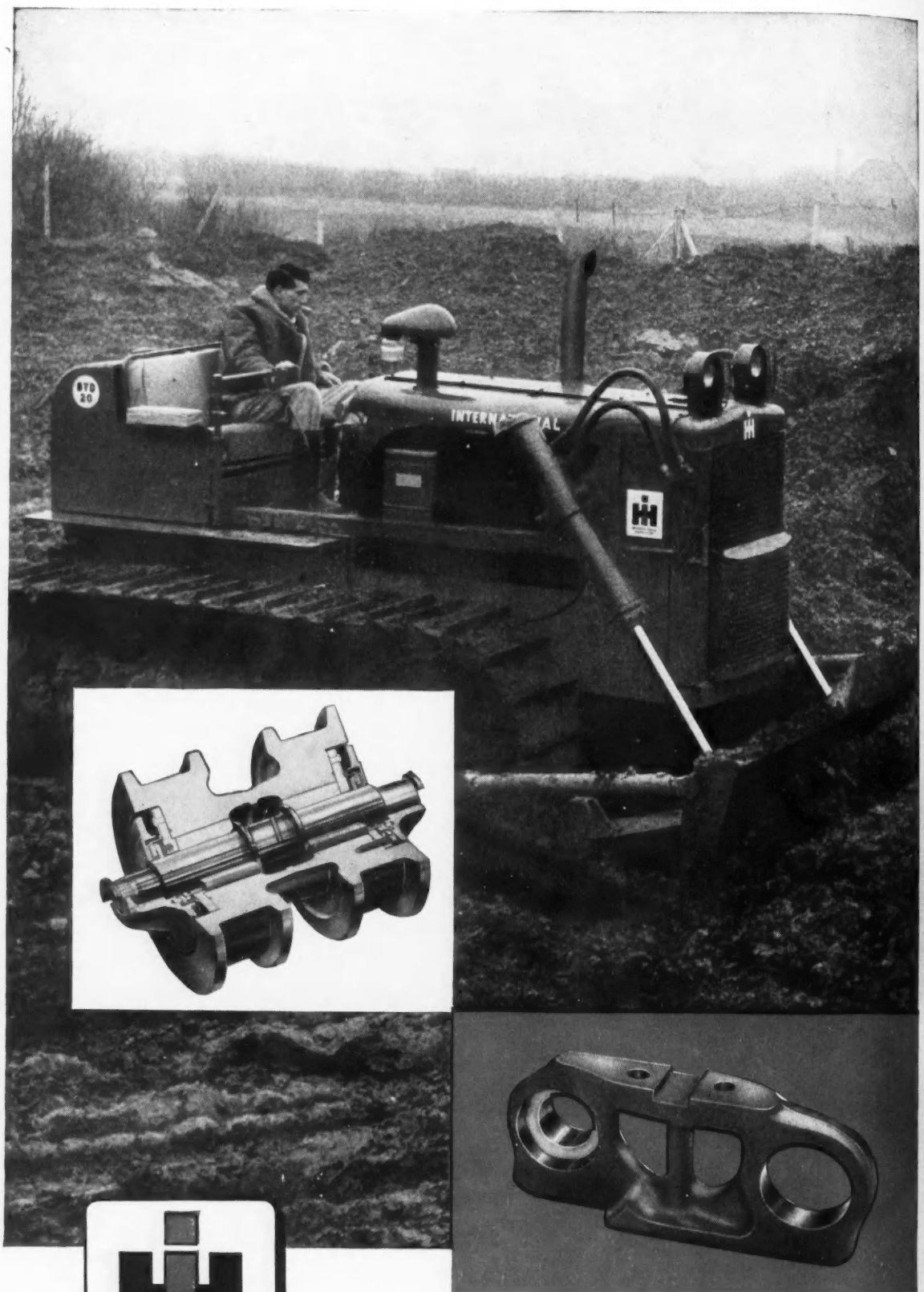
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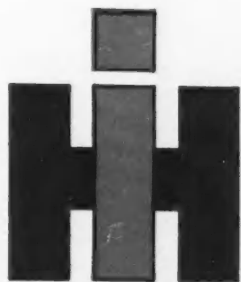


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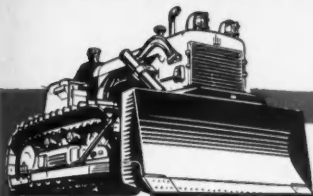
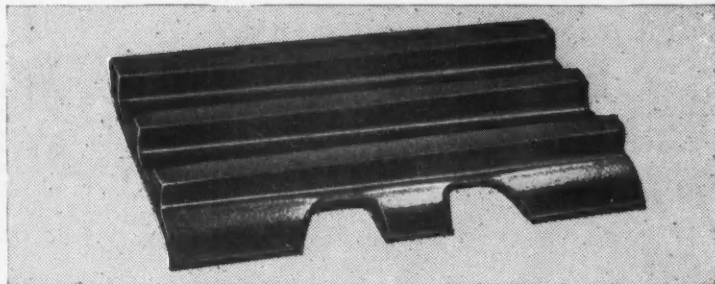
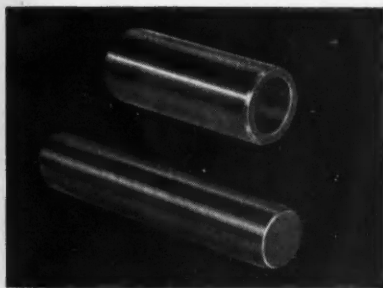
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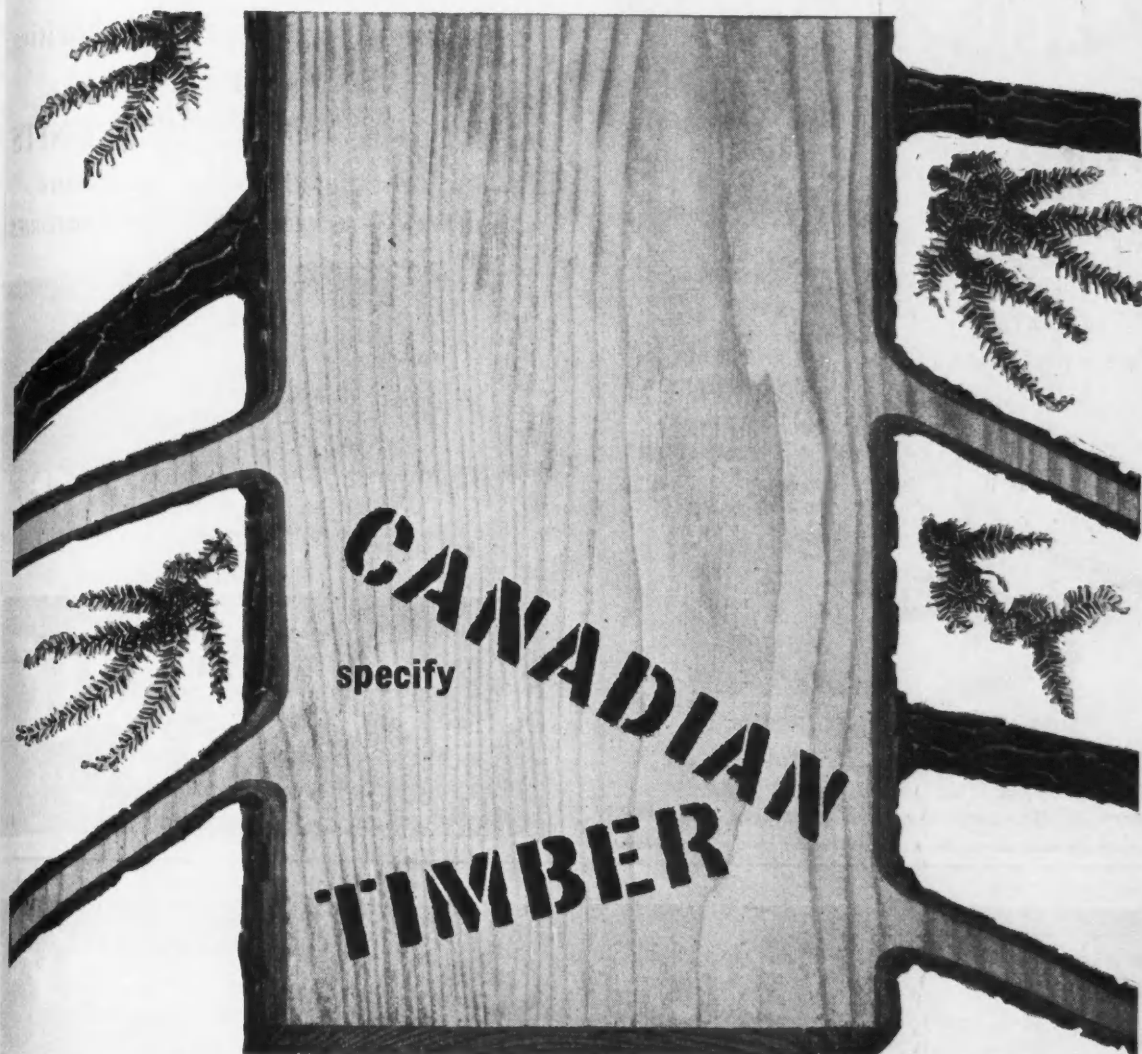
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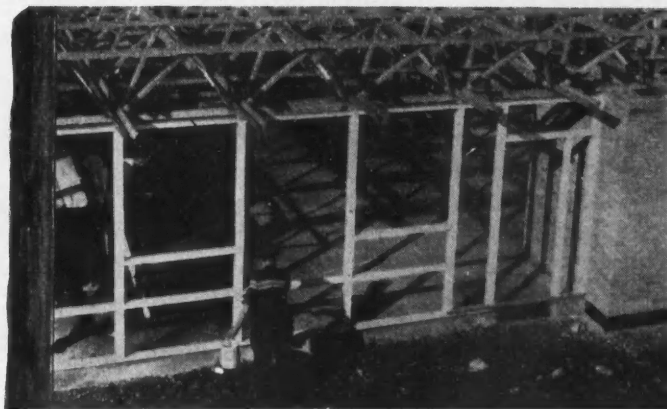
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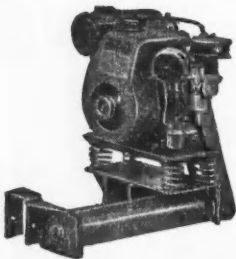
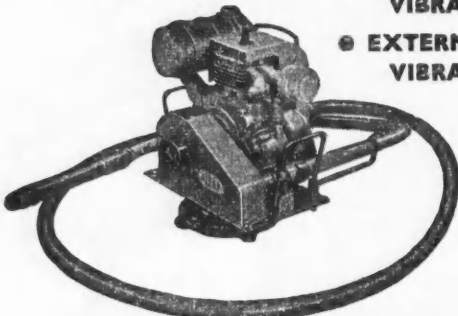
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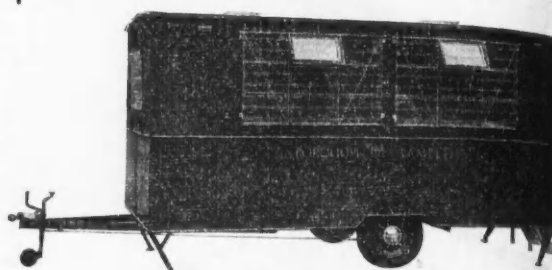



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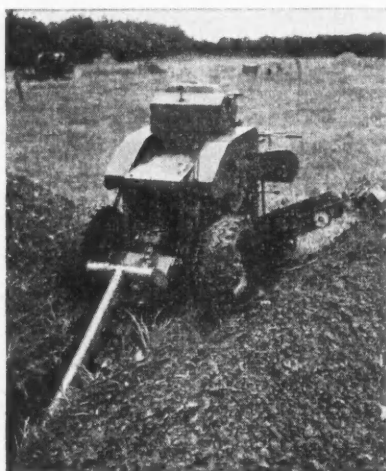
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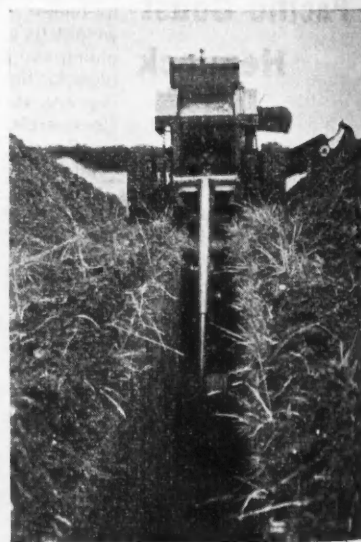
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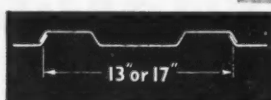
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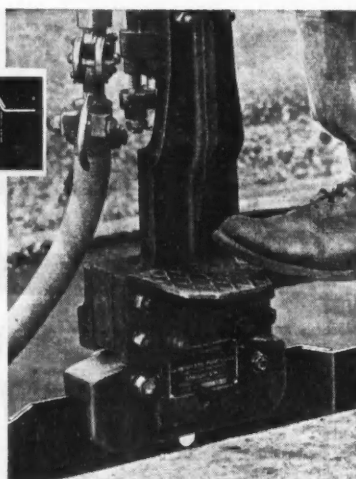
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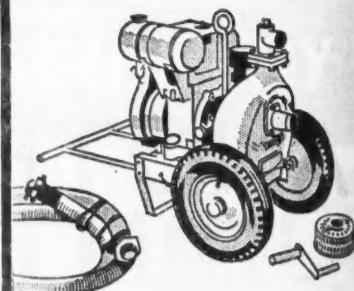
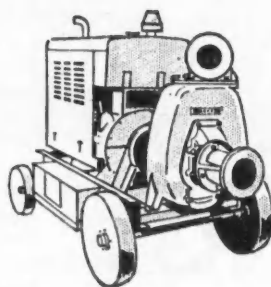
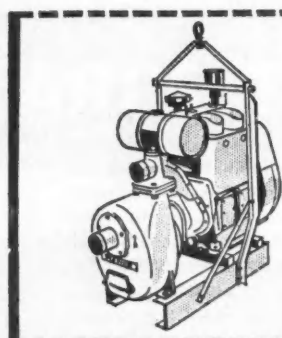
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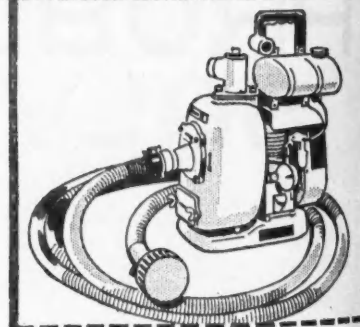
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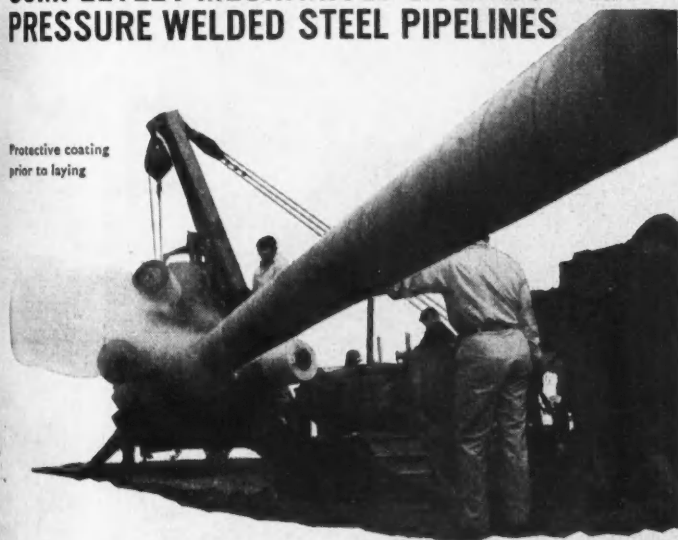
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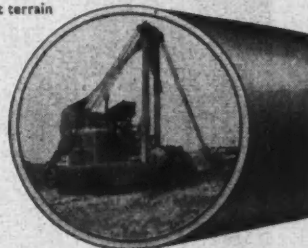
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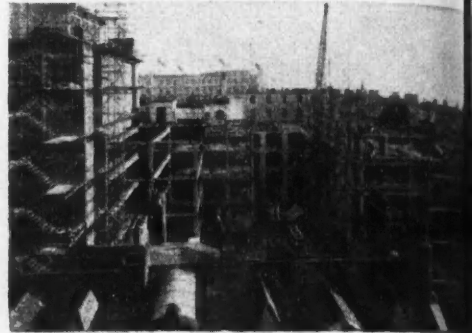
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To overcome anomalies which arise when Standard Forms of Contract unrelated to Demolition projects are considered, the Federation has issued a form of Contract specifically drawn for Demolition work, likewise a schedule of day work charges. In addition the Working Rule Agreement with the N.F.B.T.O. has been reviewed and brought up to date. Copies of all documents are available on application to the Secretary.

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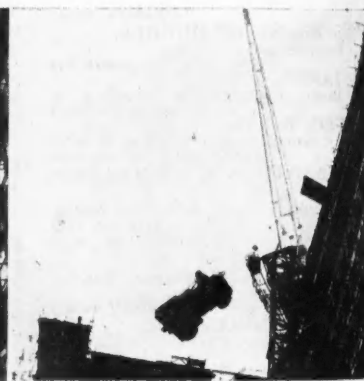
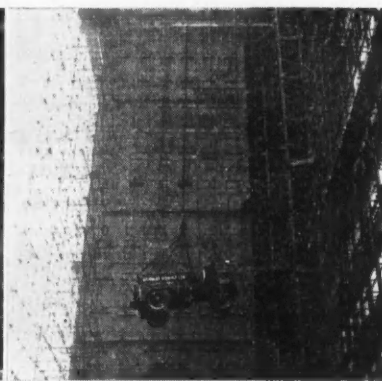
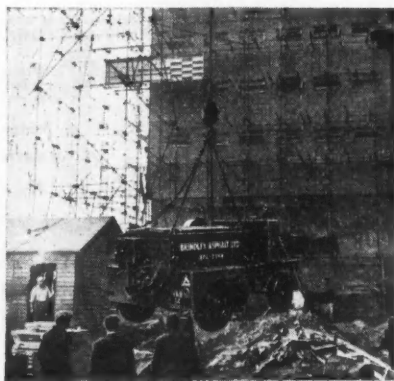
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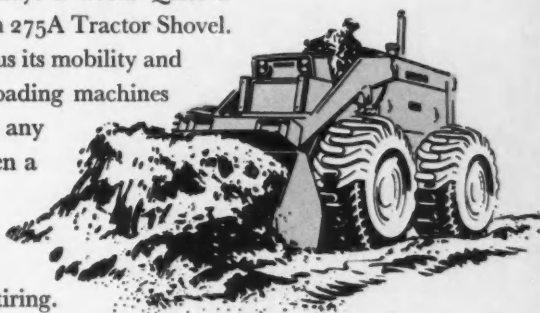
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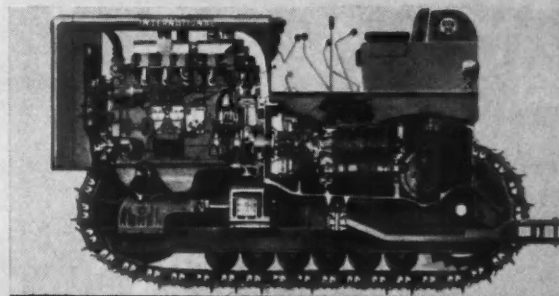
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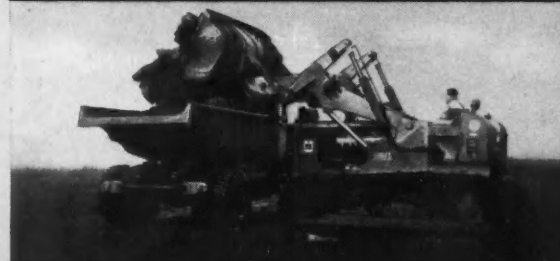
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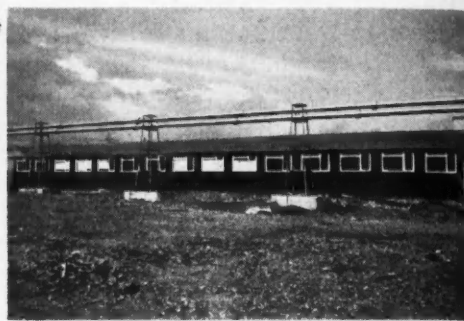
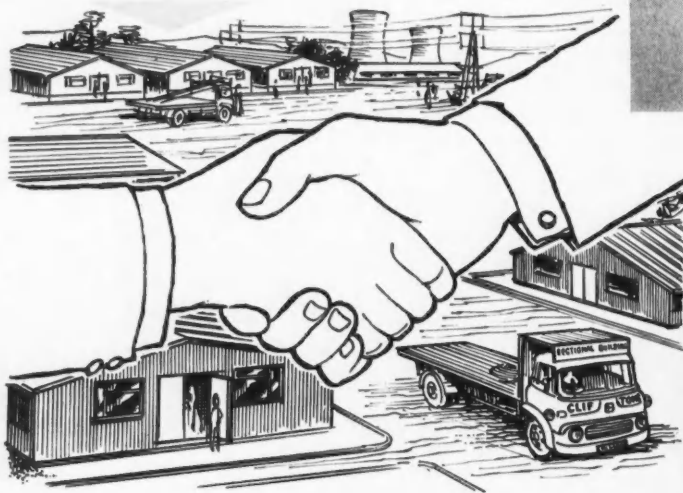
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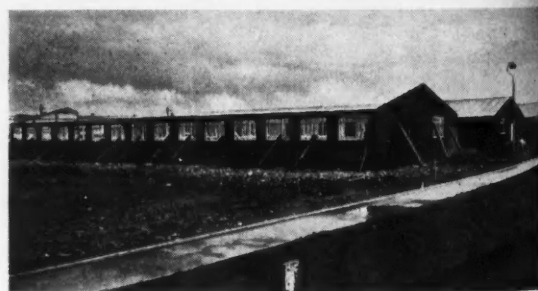
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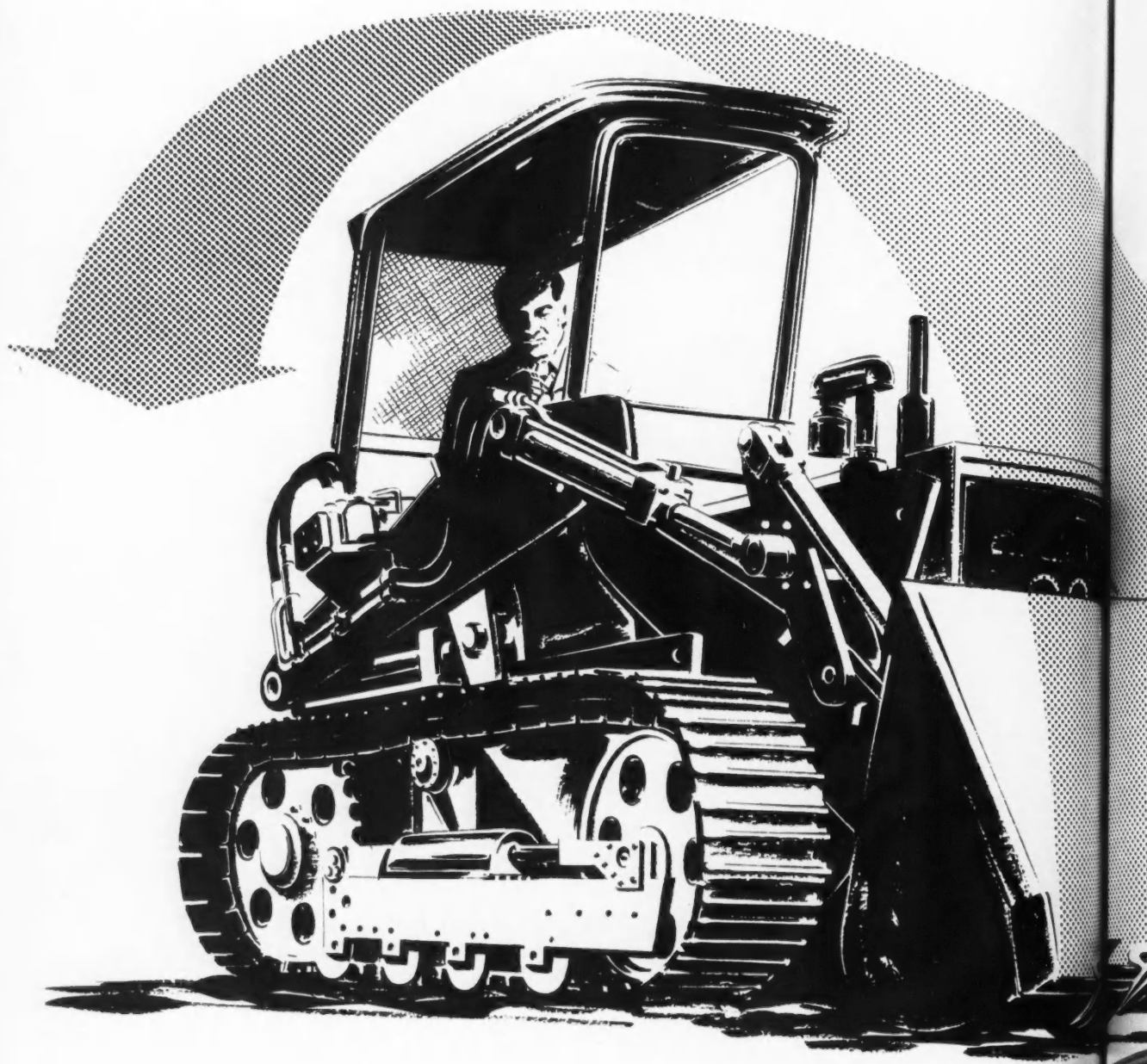
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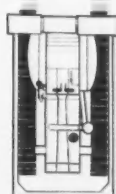
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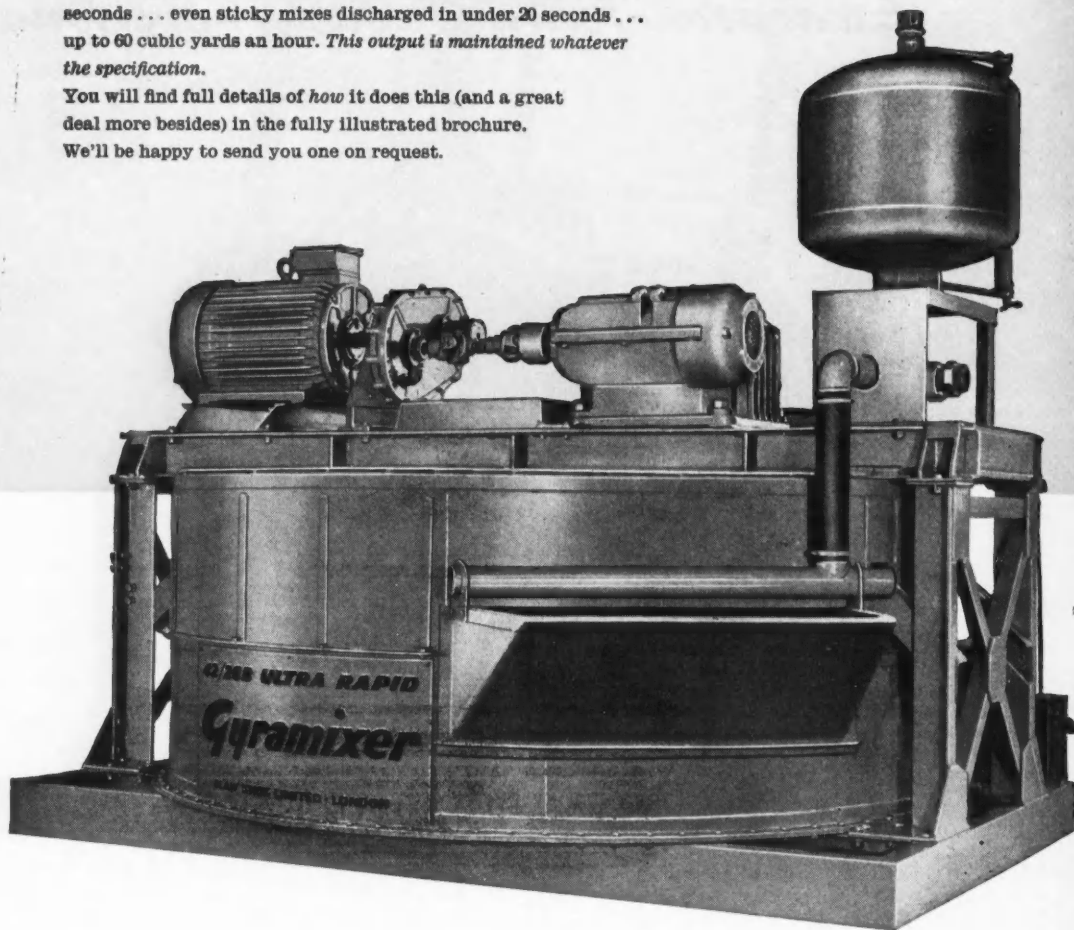
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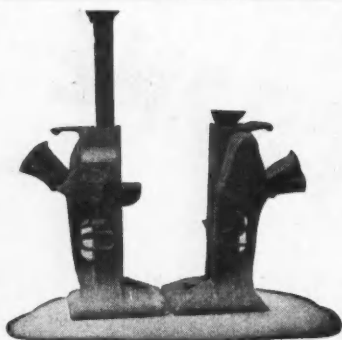


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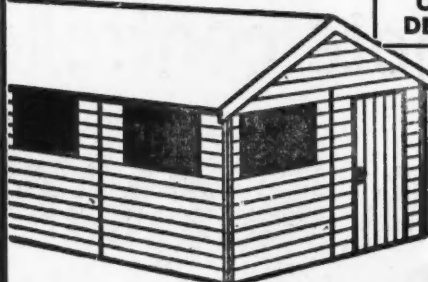
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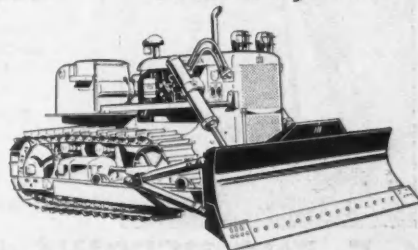
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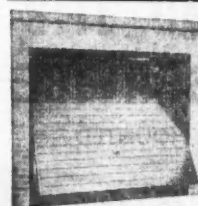
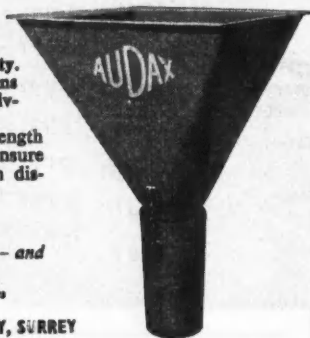
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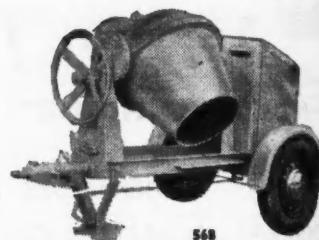
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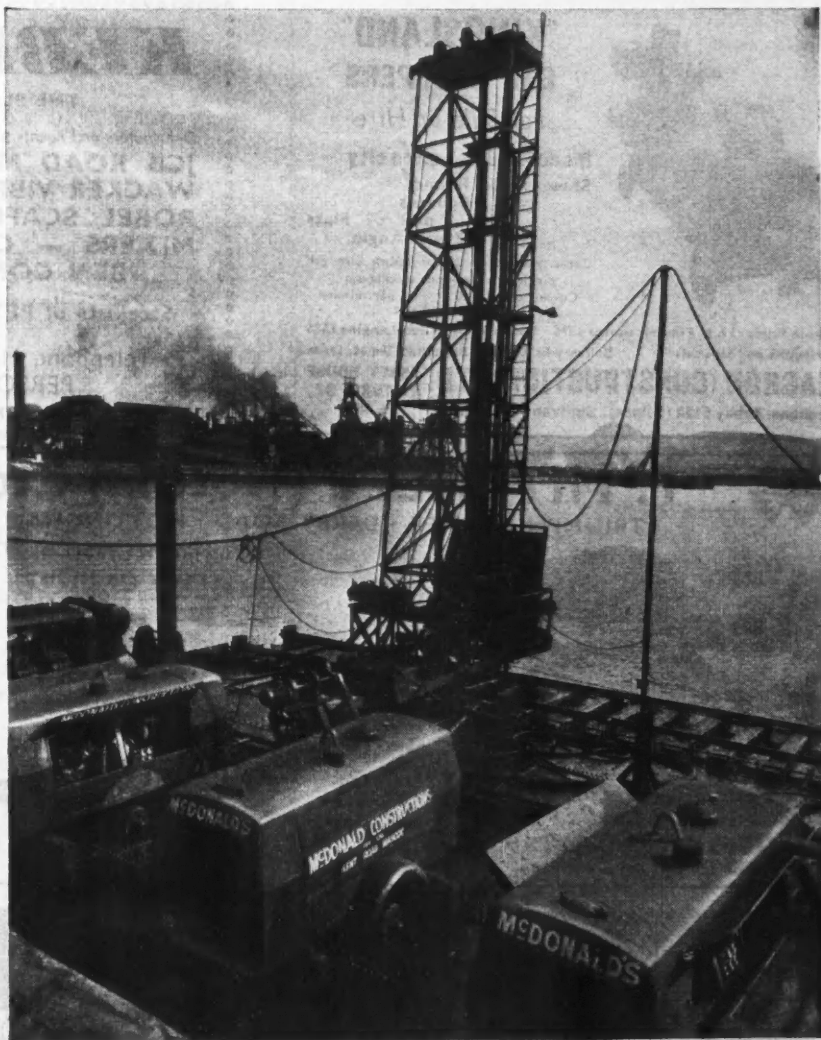
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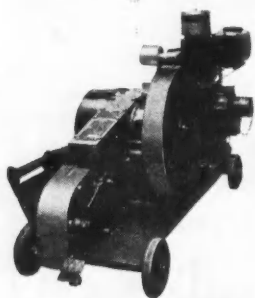
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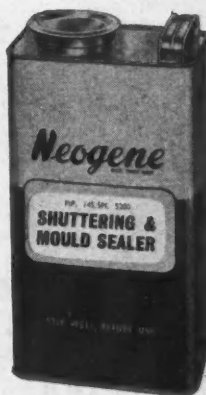
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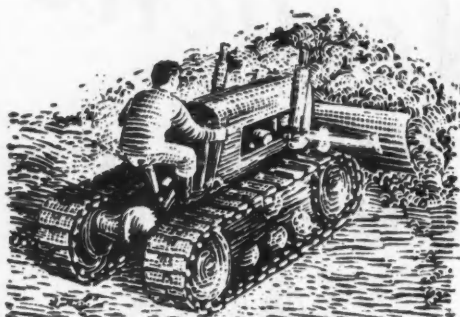
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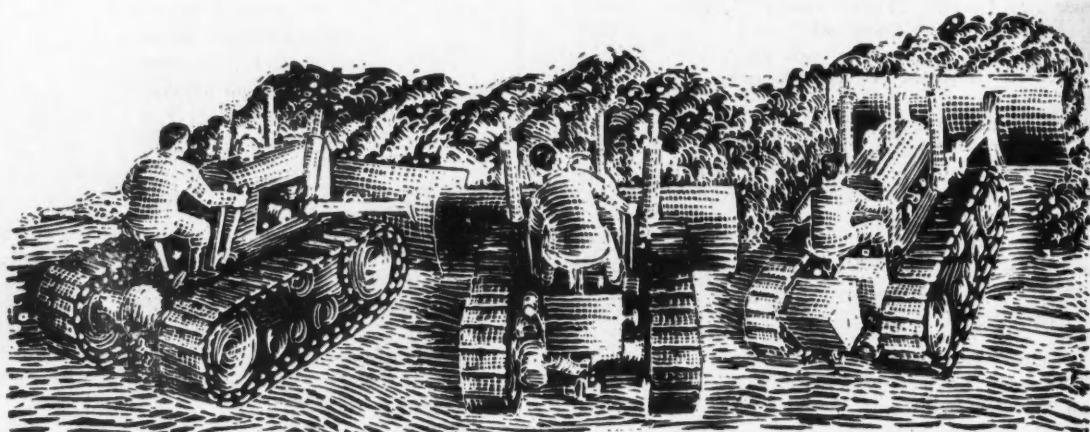
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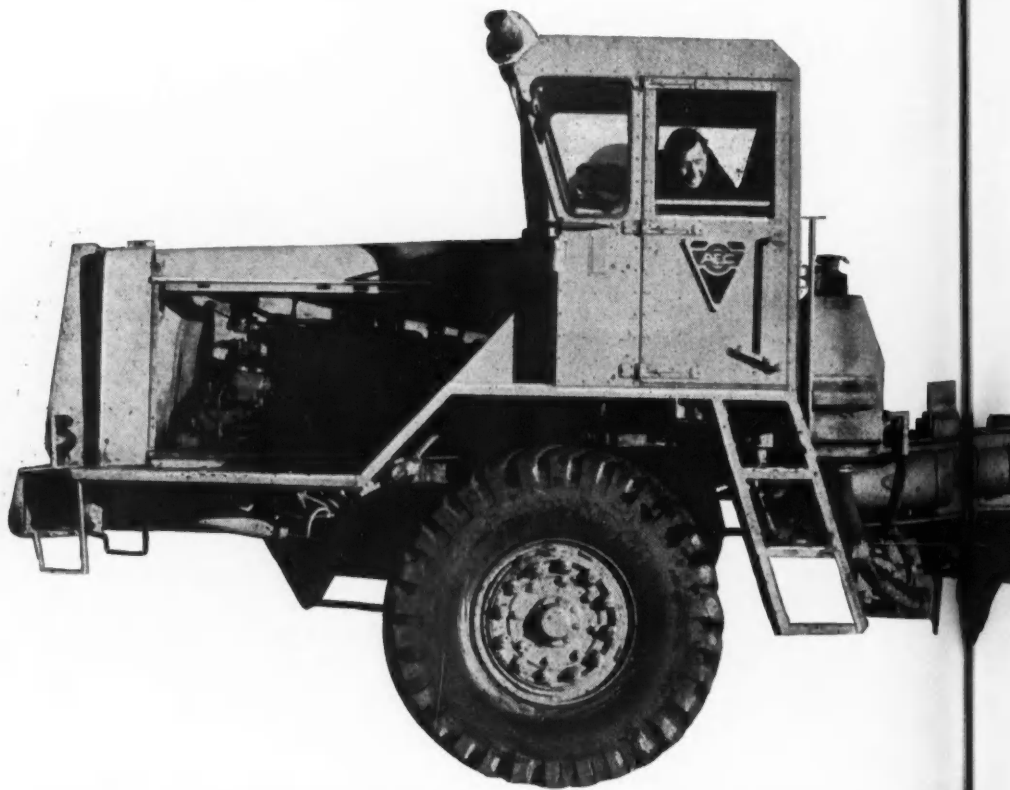
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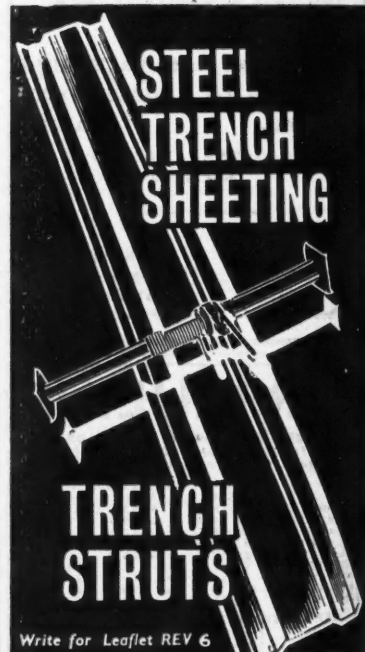
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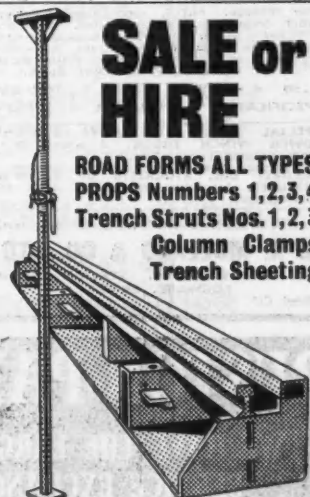
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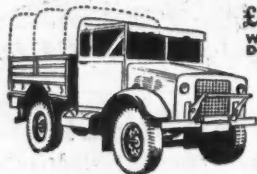


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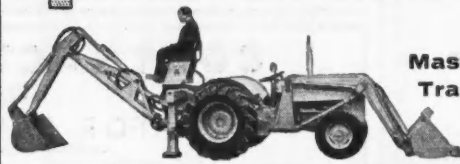
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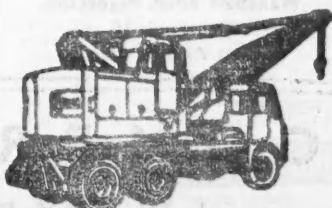
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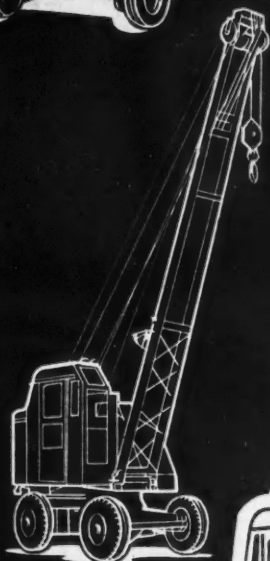
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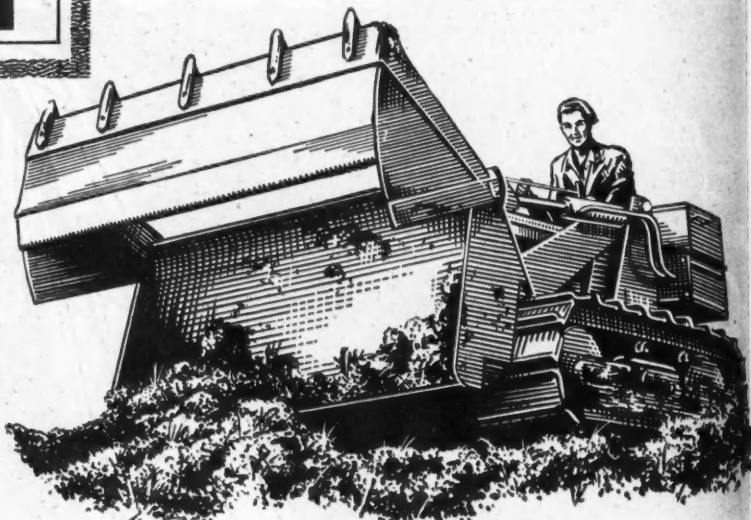
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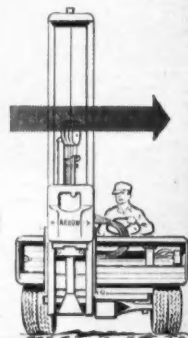


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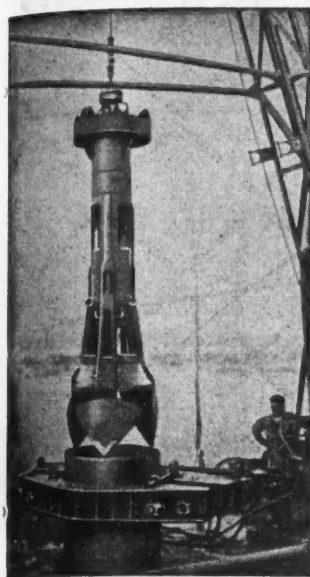
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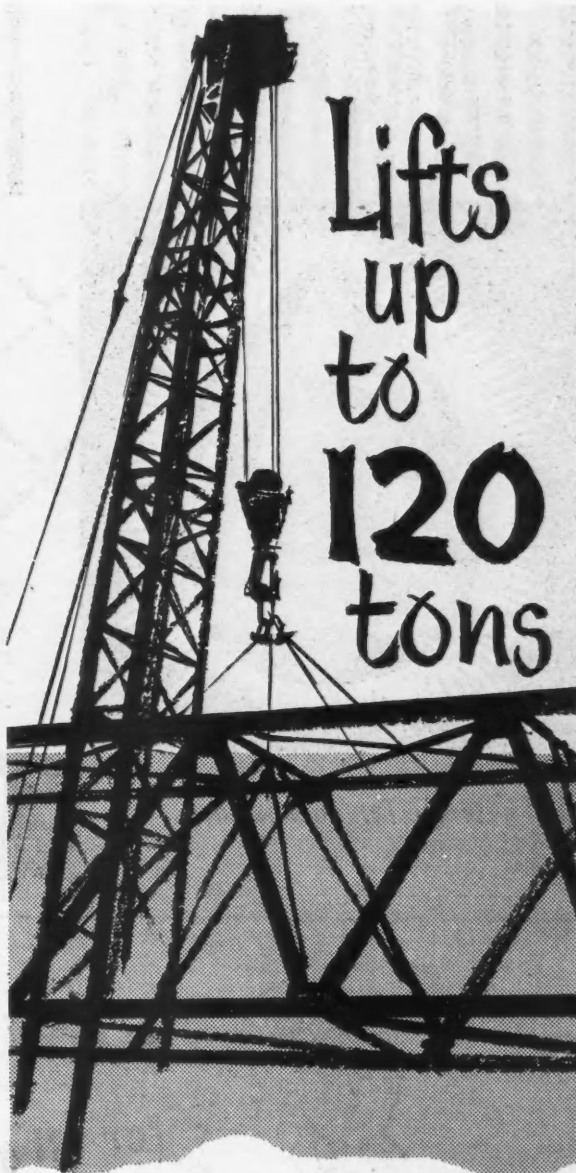
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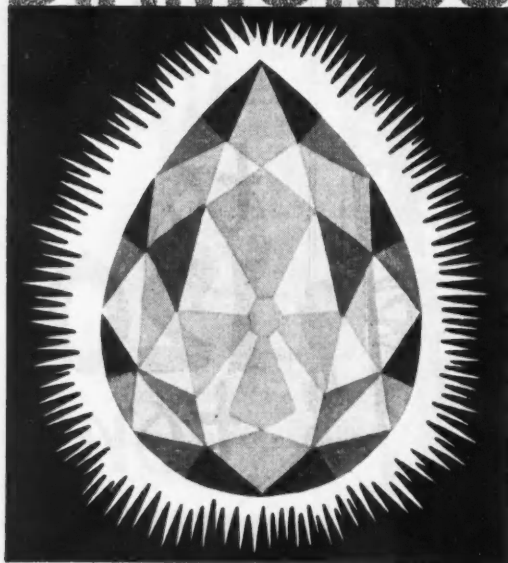
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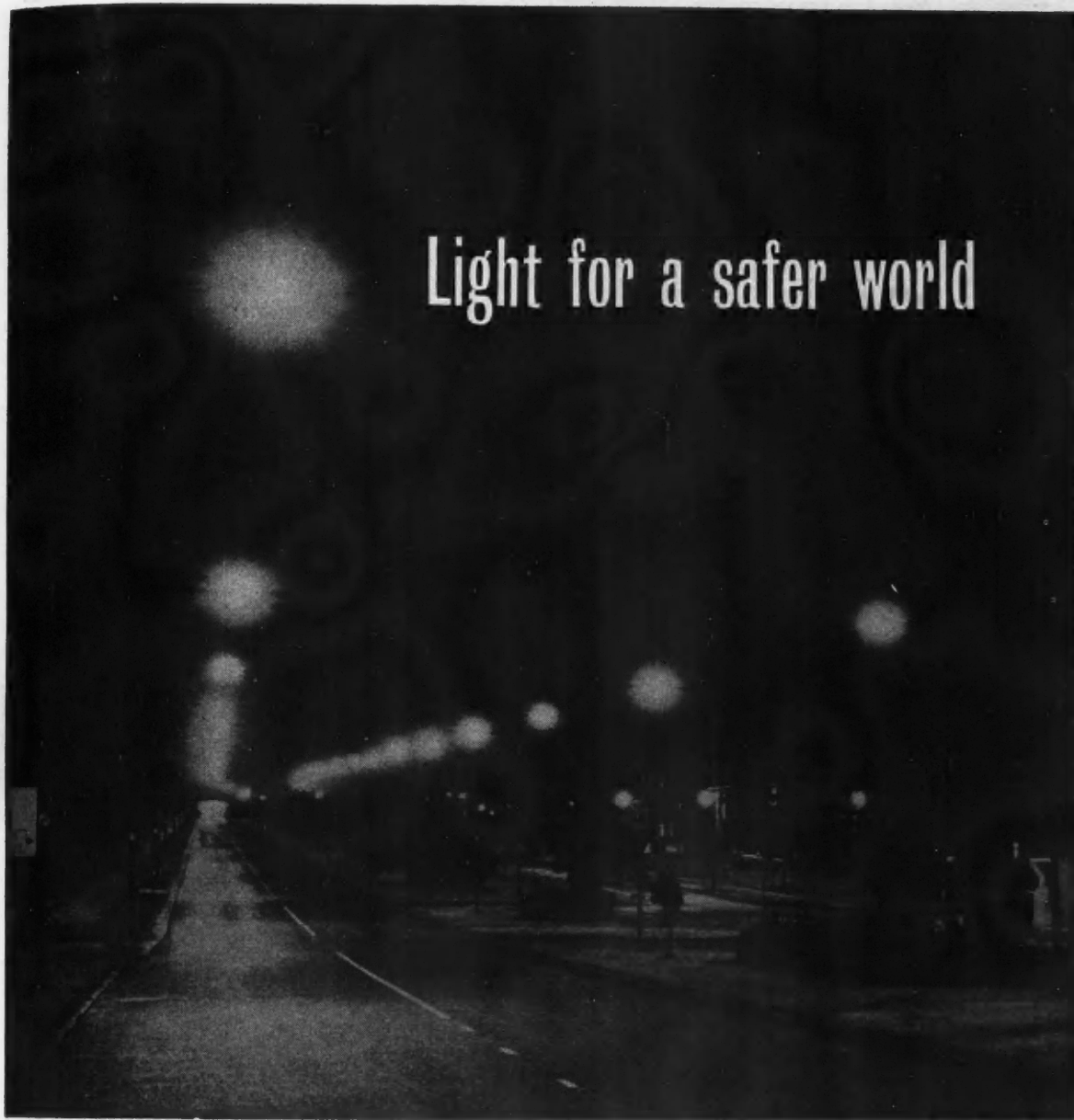
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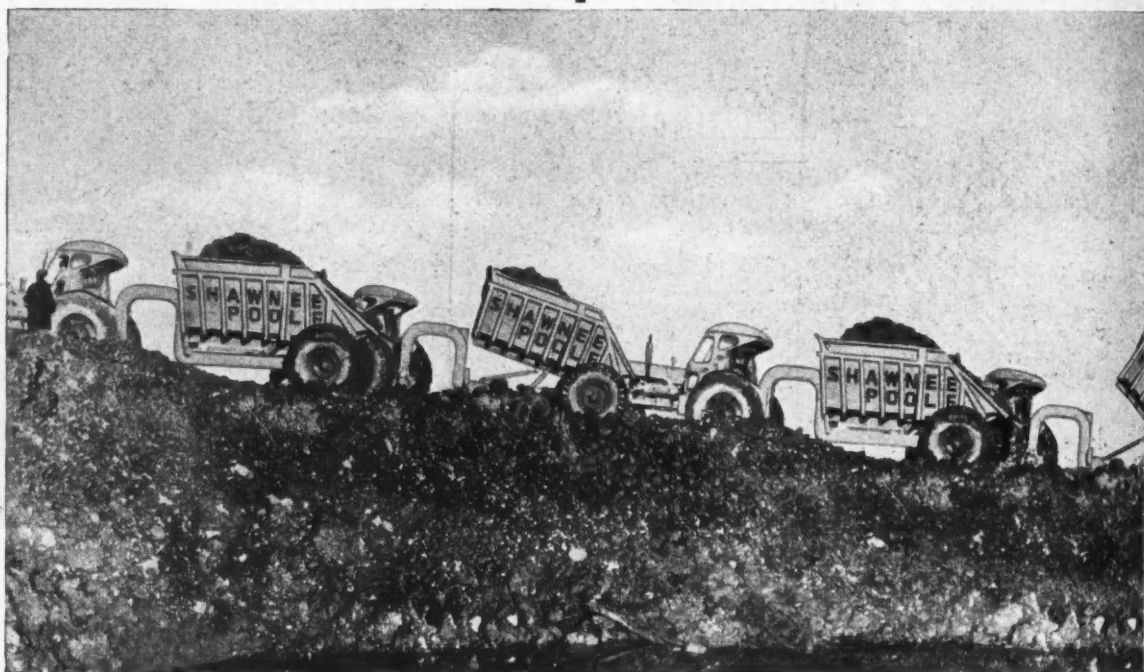
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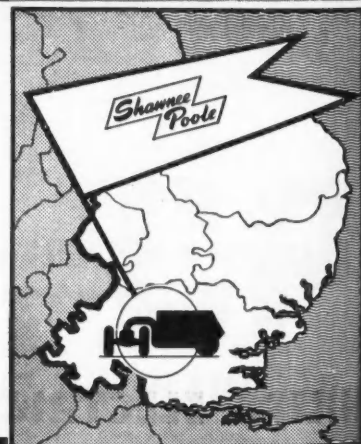


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IN CONCRETE ROAD CONSTRUCTION

Recommended qualities for concrete work are IBECO No. 40 to BSS 1521/1949 Class B and IBECO No. 60, the choice depending on the stresses involved. The former fully meets the specification at the lowest possible cost. As well as preventing seepage from the mix IBECO also checks the upward penetration of harmful acids and other chemicals frequently occurring in subsoils. It also has useful applications as a curing overlay. There is no free bitumen in IBECO to sweat out under exposure to hot sun. We will gladly send samples on request.

For the essential retention of water in a concrete mix to ensure sound setting and hardening, careful contractors are more and more depending on IBECO... Like no other waterproof paper, IBECO is waterproof *throughout its texture*. The proofing bitumen is part of the paper itself. Folding, creasing, even heavy trampling will not impair IBECO's impermeability... It's easy and quick to handle—speeds the work as well as lowering its cost and ensuring a better job. Remember IBECO for contracts in hand and in prospect.

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OVER 80,000 TONS REMOVED BY 5 PRIESTMAN GRABS



Any operation which involves the movement of loose material from one place to another is better handled by a Priestman Grab (of which there are over 3,000 types and sizes). Pictured above, Priestman Grabs played a vital part in London's big road modernisation plan, in the construction of the Hanger Lane Underpass.

During earthmoving operations, excavation down to 45 ft. between shoring timbers had to be carried out, for which Contractor A. E. FARR LTD. used five Priestman Narrow Heavyweight Grabs. 80 per cent of the total 110,000 tons of muck involved was swiftly and economically handled in this way. Photograph taken by the 'Middlesex County Times'.

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S. Smith & Sons (England) Ltd. make vehicle accessories, clocks and watches, marine, aviation and industrial equipment. Their Austin trucks, 2, 3, 5 and 7 tonners, cover the country. Their 1 and 1½ ton Austin vans deliver delicate clocks and watches and motor accessories in every major town in Britain. And deliver like clock-work. Other reasons why Smiths choose these vans:

EXTRA LOAD HOLDING Vast body space, 275 cu. ft. in 1½ ton van, 235 cu. ft. in 1 tonner, allows house-room for huge loads. Double rear doors are built to hold open or clip flat against body sides.

POWER-PACKED ENGINES Choice of 2.2 litre petrol or diesel power. 61 B.H.P. petrol, 55 B.H.P. diesel. Synchromesh gearbox with 4 forward speeds. Hydraulic actuation clutch.

MANOEUVRABILITY PLUS Full forward control, short wheelbase and 36 ft. turning circle give tremendous handling and parking ease, particularly in traffic-jammed districts.

DRIVER COMFORT Low level floor and sliding cab doors make in-and-out delivery work a quick, easy job. Roomy cab comfort with all round view through safety glass. Fully adjustable seat.

BODY CHOICE Available with standard van body or as a chassis with or without front end. The strong steel chassis is particularly suitable for a wide range of special bodywork. Price (with van body) from £710.

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widest 5 cwt.-7 ton range in Britain — offers 5 to 30 cwt. vans, 2-7 ton trucks, tippers, prime movers for up to 18 ton gross train weights. All with 12 months warranty and backed by B.M.C. Service.

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The **TRUCKAIR**

New lorry-mounted compressor
that has everything!

Lead Wool's famous AC3F reciprocating type compressor mounted on a special Ford chassis, becomes the 'Truckair'—the finest, most versatile, mobile plant of its type to date.

It is capable of operating two heavy concrete breakers at the same time with power to spare; extremely manoeuvrable; simplicity itself to service; easily removed from the chassis; rugged, foolproof, built to last.

We will gladly send you full details of this new mounted compressor without obligation. Write or telephone.

Brief Specification

COMPRESSOR: 2-stage type AC3F, giving 120 cu. ft. per minute at 100 lb. per sq. in.
Powered through Centrifugal clutch, by Ford 592E Diesel.

CHASSIS: Adapted Ford petrol, length 13' 7", width 5' 6". Turning circle only 35' 5".
Extremely low-mounted for easy access.

Weight, complete with compressor, 48 cwt.

*Only 6 bolts need be removed to detach compressor from chassis.
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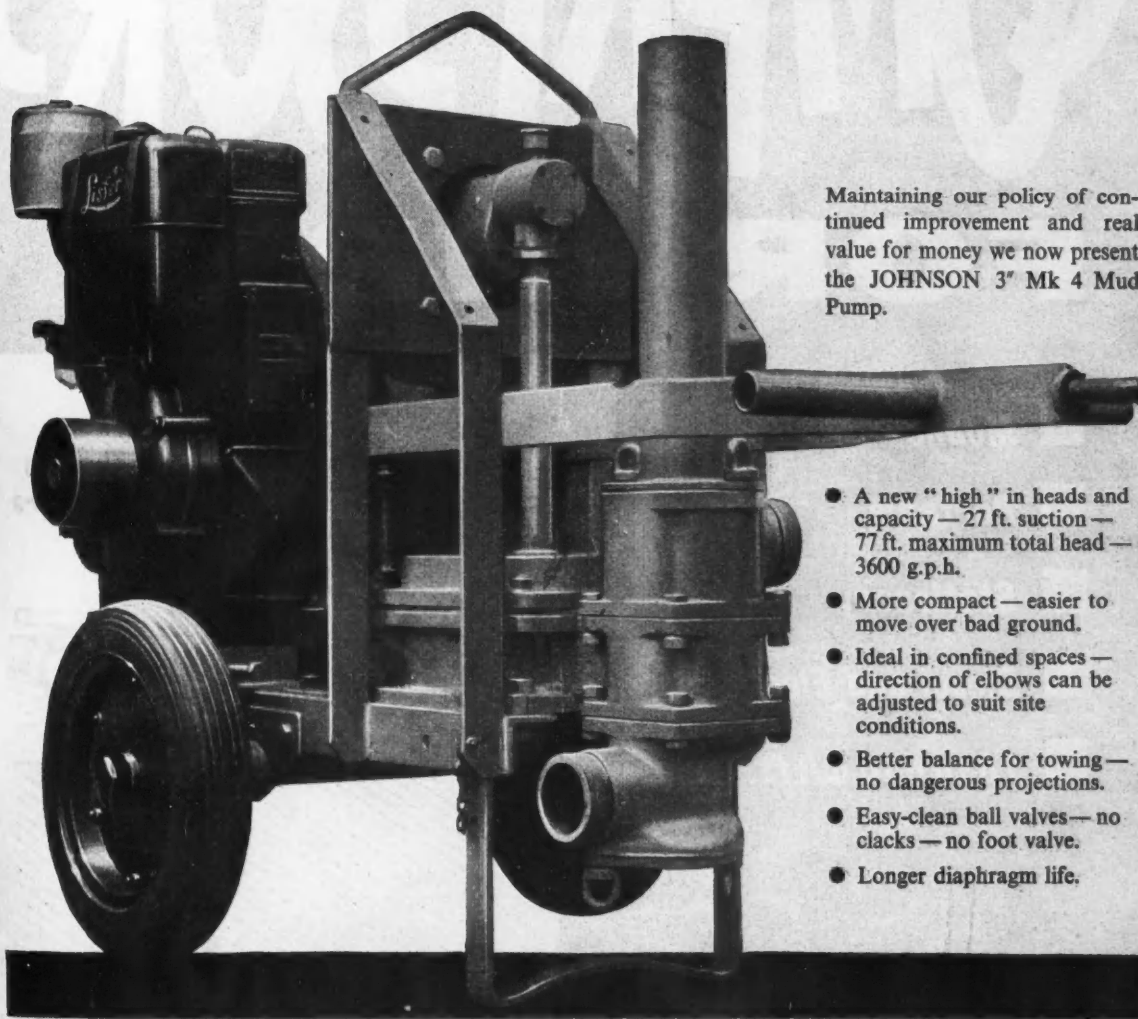


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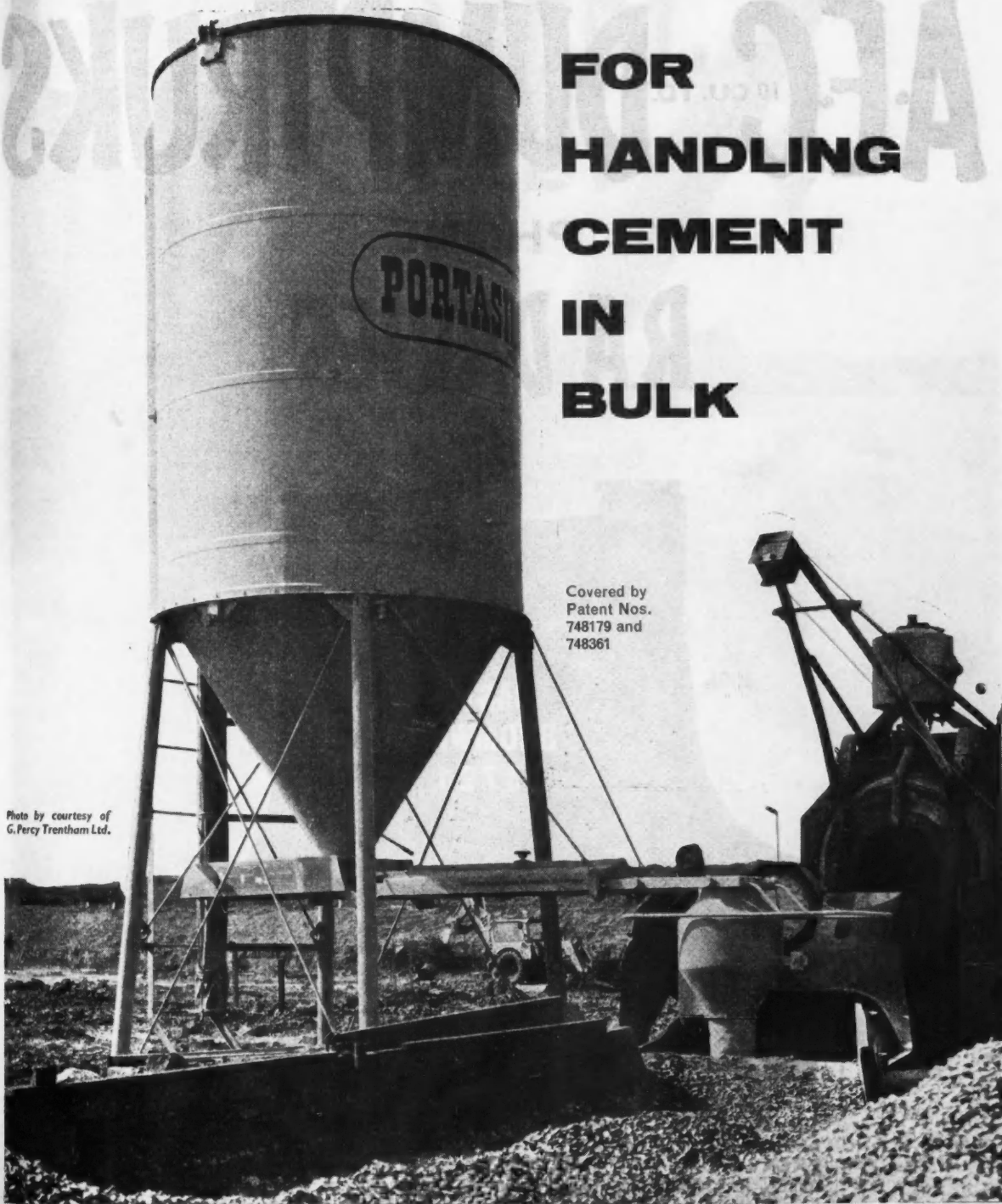
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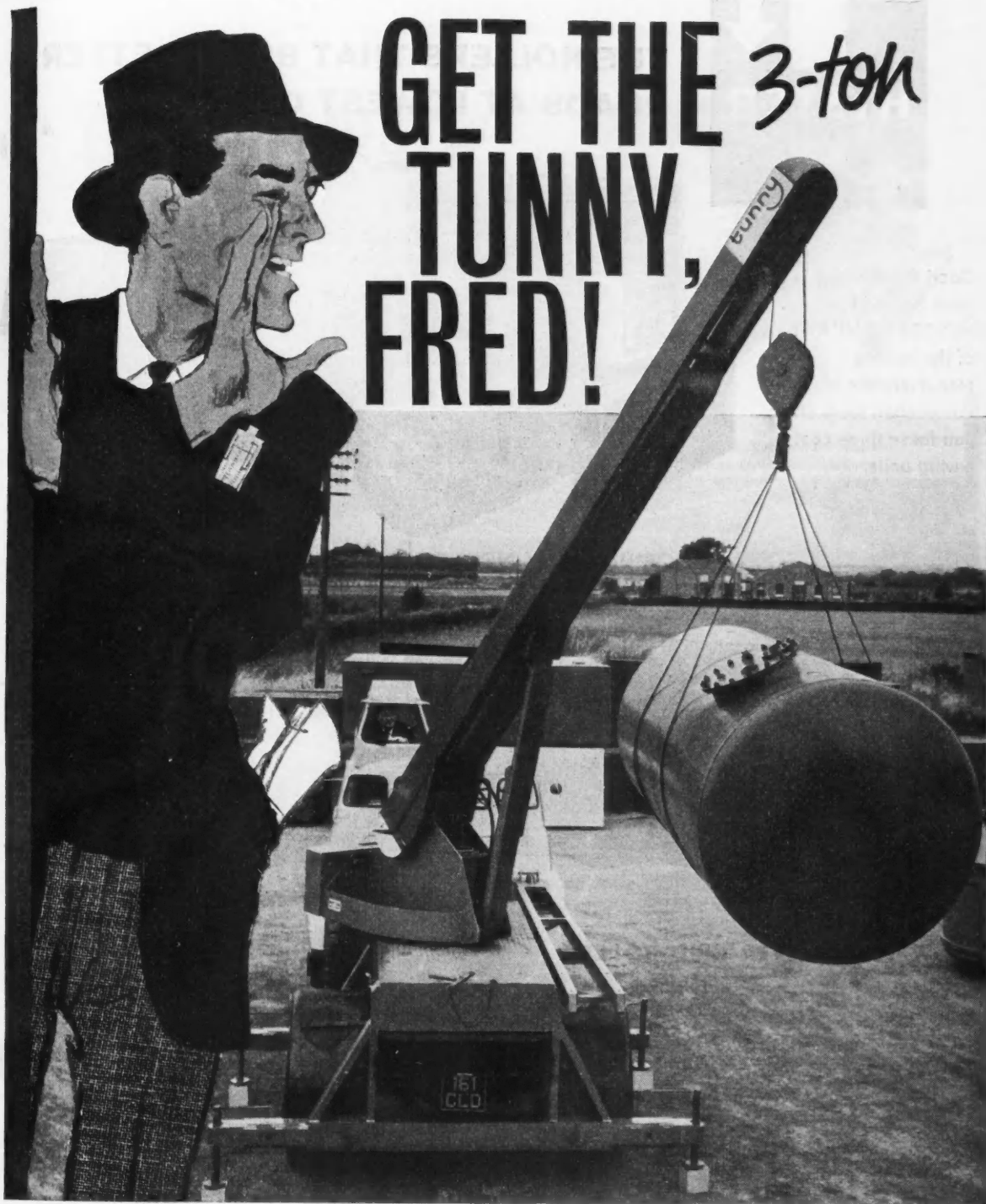
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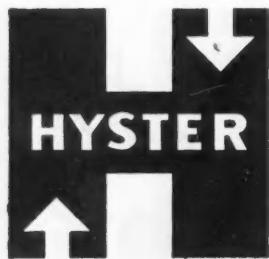
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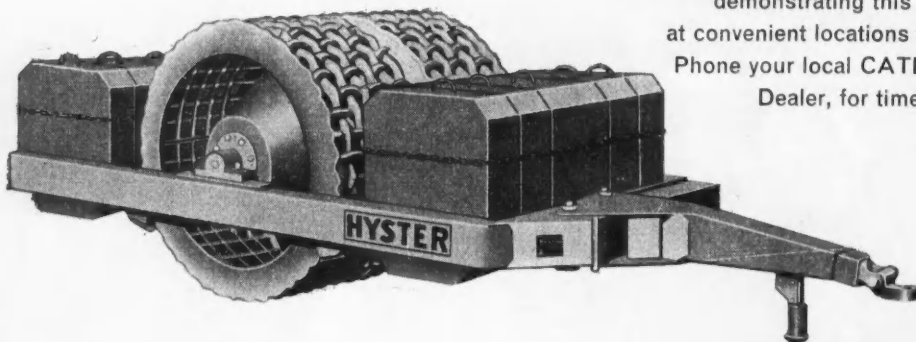
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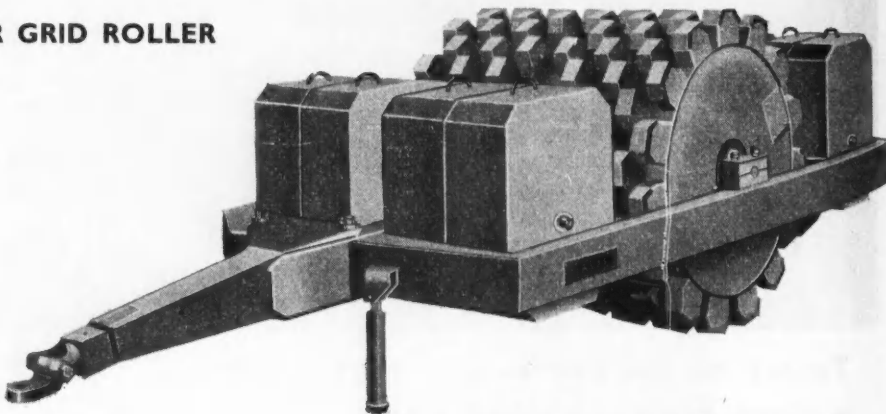


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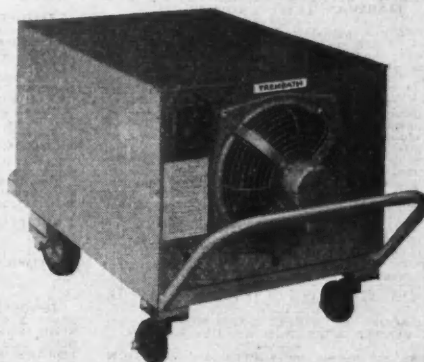


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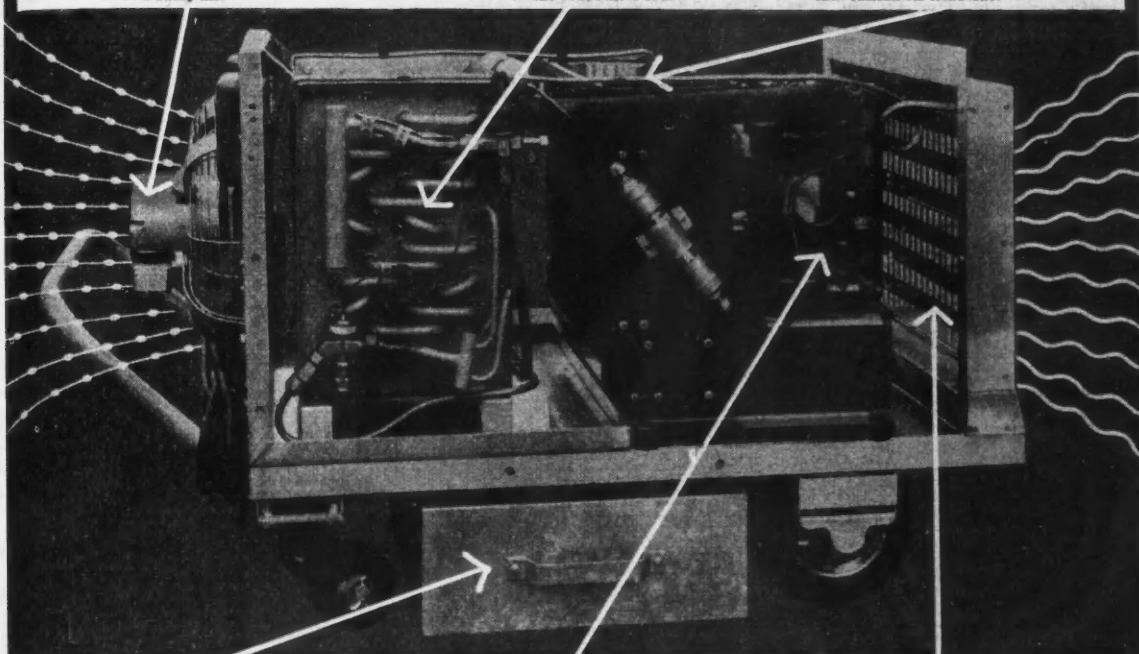
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CONTRACTS

DERBYSHIRE COUNTY COUNCIL.
BRIDGES AND HIGHWAYS DEPARTMENT.DERBY-CHESTERFIELD TRUNK ROAD, A.61—
IMPROVEMENT BETWEEN SMITHY HOUSES AND
MAREHAY LEVEL CROSSING.

TENDERS are invited for IMPROVEMENT WORKS on approx. 1,650 lin. yd. of Road, to provide 33ft. Carriageway: including 14,000 cu. yd. Earthworks, 14,000 sq. yd. of Carriageway Works, Fencing, Culvert Extension, Drainage, and other ancillary works.

Form of Tender, etc., may be obtained from, and Plans seen at, the Office of the County Surveyor, County Offices, Matlock, on payment of £5 deposit, cheques payable to Derbyshire County Council. Deposit will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelope endorsed "Smithy Houses Impt., B. and H.," to be delivered to the Clerk of the County Council, County Offices, Matlock, Derbyshire, by TUESDAY, 31st October. The County Council does not bind itself to accept the lowest or any Tender.

S. MEHEW, County Surveyor.

County Offices,
Matlock,
Derbyshire.

BOROUGH OF DARTFORD.

GROUP "A" STREET LIGHTING—
TOWN CENTRE APPROACH ROADS—PART II.

TENDERS are invited for SUPPLY and ERECTION of 75 COMPLETE LIGHTING UNITS, comprising 25ft. Reinforced Concrete Columns and 400-W MBF/U Lamps and Lanterns. The work includes Removal of existing lighting equipment.

The Form of Tender and other documents can be obtained on application to the undersigned upon payment of a deposit of £2 2s. which will be refunded on receipt of a bona-fide Tender and the return of all documents supplied, other than one copy of the Bill of Quantities.

Tenders, in plain sealed envelopes marked "Town Centre Approach Roads—Part II," but bearing no name or mark indicating the sender, must be received by me not later than 12 Noon on WEDNESDAY, 11th November, 1961.

The Corporation does not bind itself to accept any Tender.

THOMAS ARMSTRONG, Town Clerk.

Council Offices,
Dartford.

BOROUGH OF RUGBY.

ERECTION OF 54 FLATS, 26 HOUSES AND
NINE BUNGALOWS.

The CORPORATION invite TENDERS for the ERECTION OF 54 FLATS (in nine blocks), 26 HOUSES, NINE BUNGALOWS, 22 BRICK-CONSTRUCTED LOCK-UP GARAGES and a SERVICE ROAD at ABBOTTS FARM ESTATE, Rugby.

The work may be let in two Contracts, viz.: (1) 54 Flats, 22 Garages and Service Road; (2) 26 Houses and Nine Bungalows; or may be let as one complete Contract.

Bill of Quantities may be obtained at the Borough Surveyor's Department, Town Hall, Rugby, on deposit of £2 2s. which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Drawings may be seen during ordinary office hours at the above Department.

Tenders, in the envelope provided, must be received by First Post on 7th NOVEMBER, 1961.

The Corporation does not bind themselves to accept the lowest or any Tender.

T. L. DUFFY, Town Clerk.

PORT TALBOT CORPORATION.

STREET LIGHTING SCHEME ELECTRICITY—
HARRY SITE, SANDFIELDS, PORT TALBOT.

TENDERS are invited for the ABOVE SCHEME, which consists of "A" and "B" Lighting, and contains the FOLLOWING ITEMS:

- No. 46—15ft. Concrete Columns and Arms.
- No. 46—80-W Chokers and Condensers.
- No. 46—Symmetrical Service Rods, etc.
- No. 46—80-W Mercury Lamps.
- No. 25—200-W Sodium Lanterns, etc.
- No. 7—Keep Left Bollards.

Forms of Tender, Specification, Bills of Quantities may be obtained from the Borough Engineer, G. V. GRIFFITHS, A.M.I.C.E., on payment of a deposit of £2 2s. which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Plans may be inspected at the Borough Engineer's Department, for which it is requested that an appointment be made.

Completed Tenders, in a plain envelope endorsed "Street Lighting Scheme—Electricity—Harry Site, Sandfields, Aberavon," must be returned to the undersigned not later than Noon, 16th OCTOBER, 1961.

The Corporation is not bound to accept the lowest or any Tender.

W. KING DAVIES, Town Clerk.

Municipal Buildings,
Port Talbot.

25th September, 1961.

CARLTON URBAN DISTRICT COUNCIL.

PHOENIX FARM ESTATE, SITE NO. 36—
SCHEME NO. 92.

PROPOSED ERECTION OF 98 HOUSES.

TENDERS are invited for the ERECTION OF 98 HOUSES, together with incidental works, at the ABOVE SITE.

The site has been prepared with roads and sewers, and this Contract is for building work only.

Drawings and General Conditions of Contract may be inspected at the Office of the Engineer and Surveyor, E. C. KIRK, F.R.I.C.S., A.M.I.C.E., M.I.Mun.E., during normal office hours, from whom Forms of Tender and Bills of Quantities may be obtained on payment of a deposit of £2. The deposit will be refunded on receipt of a bona-fide Tender not subsequently withdrawn, and of the return of all the documents supplied.

Tenders, in a plain sealed envelope endorsed "Phoenix Farm Estate Contract," must be delivered to the undersigned not later than 10 a.m., WEDNESDAY, 25th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

A. E. F. WALKER, Clerk of the Council.

Council House,
Burton Road,
Carlton,

Near Nottingham. 22nd September, 1961.

CONTRACTS

BUCKS. COUNTY COUNCIL.

LONDON-FISHGUARD TRUNK ROAD, A.40.

A.40/A.413 JUNCTION IMPROVEMENT—
TATLING END.

TENDERS are invited for ROADWORKS (approx. 6000 yd.) comprising Widening in Rolled Concrete, Channelling in Concrete, Kerbing, Provision of Traffic Islands, Drainage, Asphalt Surfacing, and ancillary works.

Documents may be obtained from the County Surveyor, County Offices, Aylesbury, on deposit of £2, returnable on receipt of a bona-fide Tender. Drawings may be seen at the Offices of the County Surveyor's Department, Park Street, Aylesbury. Tenders must reach the undersigned by 10 a.m. on MONDAY, 30th October, 1961.

R. E. MILLARD, Clerk of the Council.

County Hall,
Aylesbury.

September, 1961.

DROITWICH BOROUGH COUNCIL.

(SECOND ADVERTISEMENT.)

DROITWICH SEWERAGE AND SEWAGE DISPOSAL.

CONTRACT NO. 1.

TENDERS are invited for the CONSTRUCTION of about 550 lin. yd. of BLAZED STENWARE and SPUN-IRON PIPE SEWERS 9in. in dia. with Manholes; about 1,050 lin. yd. of SPUN-IRON TEMPORARY RISING MAIN 6in. in dia.; a Temporary Pumping Station; an additional Sedimentation Tank; and Earthbank Sludge Lagoon, and incidental works, in accordance with the Drawings, Specification and Bills of Quantities prepared by the Engineers, A. H. S. WATERS AND PARTNERS, of 25 Temple Row, Birmingham, 2.

The Drawings may be seen at, and the General Conditions of Contract, Specification, Bills of Quantities and Form of Tender may be obtained from, the Offices of the undersigned, or of the Engineers, on or after the 6th October, 1961, on a payment of a deposit of Five Guineas which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Sealed Tenders, on the form supplied and in the endorsed envelope provided, are to be delivered to me at my Office not later than Noon on the 31st OCTOBER, 1961.

The Council does not undertake to accept the lowest or any Tender.

S. G. FOSTER, Town Clerk.

Town Hall,
Droitwich, Worcs.

2nd October, 1961.

CITY OF CARDIFF.

CITY SURVEYOR'S DEPARTMENT.

PALACE ROAD RELIEF SEWER.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of approx. 600 lin. yd. of 30in. dia. FOUL SEWER, including Manholes, and ancillary works.

Conditions of Tender, Specification, Bills of Quantities and Drawings may be obtained from the City Surveyor, to whom application should be made, accompanied by a deposit of the sum of £2 2s. Cheques should be made payable to the Cardiff Corporation and crossed "Not Negotiable and Co."

The deposit will be refunded on receipt of a bona-fide Tender and the return of the Contract documents by the closing date.

Tenders will not be considered unless enclosed in a plain sealed envelope endorsed "Tender for Palace Road Relief Sewer," addressed to the undersigned at the City Hall, Cardiff, and sent by Registered Post or Recorded Delivery so as to be received not later than MONDAY, 23rd October, 1961.

The envelope must not bear the name of, or any mark indicating the identity of, the tenderer.

The Council does not bind itself to accept the lowest or any Tender.

S. TAPPER-JONES, Town Clerk.

City Hall,
Cardiff.

25th September, 1961.

NEATH RURAL DISTRICT COUNCIL.

TRUNK ROAD, A.465—CADOXTON-ABERDULAIS.

STREET LIGHTING.

TENDERS are invited for the SUPPLY and ERECTION OF 62 STEEL COLUMNS and 72 200-W SODIUM LAMPS, together with Auxiliary Gear and Wiring; also the Supply of 19 Wood Pole Brackets and One Wall Bracket.

General Conditions of Contract, Specification and Bill of Quantities may be obtained, and Plans inspected, at the Engineer and Surveyor's Department, Council Offices, Orchard Street, Neath, on payment of £2 2s. which will be refunded on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Tender—Cadoxton/Aberdulais Road Lighting," must be delivered to the undersigned not later than TUESDAY, the 24th October, 1961.

I. H. K. THORNE, Clerk of the Council.

Orchard Chambers,
15 Orchard Street,
Neath.

27th September, 1961.

LEEDS REGIONAL HOSPITAL BOARD.

TO HEATING CONTRACTORS.

FIXED-PRICE TENDERS are invited for CARRYING OUT UPGRADING OF HEATING AND HOT WATER SUPPLY SERVICES, together with AUXILIARY BLOCK, ST. JAMES'S HOSPITAL, Beckst Street, Leeds.

Applications for Form of Tender and Specification and Drawings may be obtained from the undersigned, which will be refunded on receipt of a bona-fide Tender and other Contract documents, must be made to the Regional Engineer at the undermentioned address not later than 12 Noon on WEDNESDAY, 18th October, 1961. Cheques should be made payable to the Leeds Regional Hospital Board, and crossed.

A copy of the Drawings, Conditions of Tender and Conditions of Contract may be inspected at the Office of MESSRS. PASHLER AND PARTNERS (Consultant Engineers), City Chambers, Infirmary Street, Leeds, 1.

Sealed tenders, in the endorsed envelope provided, must be delivered to the undersigned not later than 12 Noon on THURSDAY, 16th November, 1961.

The Board does not bind itself to accept the lowest or any Tender.

WM. A. SHEE, Secretary to the Board.

Park Parade,
Haggate,
Yorks.

CONTRACTS

NOTTINGHAMSHIRE C.C.

LONDON-EDINBURGH-THURSO TRUNK ROAD, A.1,

RE-ROUTING MARKHAM MOOR TO RANBY.

TRAFFIC SIGNS.

TENDERS are invited for the PROVISION and ERECTION OF MOTORWAY-TYPE TRAFFIC SIGNS complete with Posts and Illumination Units on six miles of Trunk Road between MARKHAM MOOR and RANBY, Nottinghamshire.

The Form of Tender and contract documents can be obtained from the County Surveyor, Shire Hall, Nottingham, on payment of £2 deposit which will be returned on receipt of a bona-fide Tender, not subsequently withdrawn.

Tenders, in the envelope provided, should be delivered to the undersigned not later than the First Post on FRIDAY, 3rd November, 1961.

The Council does not bind itself to accept the lowest or any Tender.

A. R. DAVIS, Clerk of the County Council.

County Hall,
West Bridgford,
Nottingham.

BOROUGH OF MAIDENHEAD.

A.308, MARLOW ROAD IMPROVEMENT—STAGE 1.

The COUNCIL invites TENDERS for the CONSTRUCTION of approx. 5,000 sq. yd. of DRY LEAN CONCRETE CARRIAGEWAY FOUNDATION; 900 sq. yd. of Coated Macadam Base and Wearing Courses; and 4,100 sq. yd. of Rolled Asphalt Base and Wearing Courses; the Provision and Laying of 1,100 lin. yd. of Precast Concrete Kerb and Scribe Block Channel; the Construction of Footways and Grass Areas; the Provision of Gullies and Soakaways for Surface Water Drainage; Earthworks, Fencing, and all incidental works.

Drawings may be seen at, and Tender documents obtained from, the Office of the Borough Engineer and Surveyor, 14 Craufurd Rise, Maidenhead, on payment of a deposit of Two Pounds which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Tenders, in plain sealed envelopes endorsed "Marlow Road Improvement," and bearing no mark or indication of the sender, must be delivered to me not later than WEDNESDAY, 8th November, 1961.

The Council does not bind itself to accept the lowest or any other Tender.

STANLEY PLATT, Town Clerk.

Guildhall,
Maidenhead, Berks.

October, 1961.

HORNCURCH URBAN DISTRICT COUNCIL.

PRIVATE STREET WORKS—

MAKING-UP OF HOOD ROAD, MACLENNAN AVE.
AND SUTTONS AVE. (PART).

TENDERS are invited for the MAKING-UP of the ABOVE-MENTIONED STREETS and PART of a STREET in the Urban District of Horncurch.

The works include Surface Water Drainage; the Laying of Precast Concrete Kerbs; the Reconstruction of existing Carriageways, both in Reinforced Concrete and in Hardcore, Surfaced with Bitumen Macadam, and the Construction of paving Footways, both in Precast Concrete Slab and in Bitumen Macadam.

The Drawings, Conditions of Contract, Specification and Bills of Quantities may be obtained from the Office of the Engineer and Surveyor, Council Offices, Billet Lane, Horncurch, upon payment of a deposit of Three Guineas which will be refunded upon receipt of a bona-fide Tender which is not subsequently withdrawn.

The documents and priced Bills of Quantities must be returned to the undersigned not later than Noon on MONDAY, the 30th October, 1961, sealed in the envelope provided, which shall bear no indication of the identity of the persons tendering.

The Council does not bind itself to accept the lowest or any Tender they may receive.

P. L. COX, Clerk of the Council.

Council Offices,
Horncurch, Essex.

PAIGNTON URBAN DISTRICT COUNCIL.

WIDENING AND IMPROVEMENT OF PART OF
PRESTON DOWN ROAD.

TENDERS are invited for the CONSTRUCTION of approx. 500yd. of ROADS, Pavings and Road Drainage in part of Preston Down Road.

Bills of Quantities and other particulars obtainable from Engineer and Surveyor, Municipal Offices, Oldway, Paignton.

Tenders to be received by the undersigned not later than 10 a.m. on MONDAY, 16th October, 1961.

The Council does not bind itself to accept the lowest or any Tender.

SAMUEL HODSON, Clerk of the Council.

Municipal Offices,
Oldway,
Paignton.

CHISHLEHURST AND SIDCUP URBAN DISTRICT COUNCIL.

ROAD IMPROVEMENT—

SIDCUP HILL/HIGH STREET, SIDCUP.

TENDERS are invited for CONSTRUCTION of 340 sq. yd. of 8in. CONCRETE, 380 sq. yd. of HOT ROLLED ASPHALT together with KERBING and PAVING WORK.

Plans and conditions of contract may be inspected at the Office of the Surveyor, Manor House, Sidcup, from whom documents can be obtained upon payment of a Two Guinea deposit, refundable upon receipt of bona-fide Tender.

Tenders to be received by the undersigned by 23rd OCTOBER, 1961. The Council do not bind themselves to accept the lowest or any Tender.

T. W. FAGG, Clerk of the Council.

Sidcup Place,
Sidcup,
Kent.

URBAN DISTRICT OF WOLVERTON.

CALVERTON HOUSE ESTATE.

TENDERS are invited for the ADVANCE PREPARATION (Road Foundations, Sewers, etc.) of this ESTATE.

Documents from ENGINEER AND SURVEYOR, Council Offices, Market Square, Stony Stratford, Bucks. Tenders to be received by Noon on TUESDAY, 17th October, 1961.

CONTRACTS

BOROUGH OF KING'S LYNN.

CAMPBELL'S PUMPING STATION NO. 2.

TENDERS are invited for the CONSTRUCTION of a BRICK-BUILT MOTOR HOUSE and REINFORCED CONCRETE WET AND DRY SUMPS at a Site off HARDWICK ROAD, King's Lynn, together with Rising Main and Outfall Works into the River Nar. Copies of the Specification, Bills of Quantities, Forms of Tender and Drawings may be obtained from, and the General Conditions of Contract inspected in, the Office of the Borough Engineer, H. G. RIDLER, M.I.Mun.E., Clifton House, 17 Queen Street, King's Lynn, upon payment of a deposit of £2 2s. which will be refunded on receipt of a bona-fide Tender. Tenders must be returned to the undersigned, in the envelope provided, not later than Noon on FRIDAY, 10th November, 1961. The Corporation do not bind themselves to accept the lowest or any Tender.

E. W. GOCHER.

Town Hall,
King's Lynn.

Town Clerk.

BOROUGH OF COLNE.

82 FLATS AND 12 HOUSES.

Comprehensive TENDERS on a Fixed-price Basis are invited for the ERECTION complete, including ancillary work, of 82 FLATS AND 12 HOUSES at COMMON, Colne. Tenders for individual trades will not be accepted. Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Engineer and Surveyor, Town Hall, Colne, Lancs., on payment of Two Guineas (refundable on receipt of bona-fide Tender and returning all documents). Plans and General Conditions of Contract may be inspected at the Borough Engineer's Office. Tenders, in plain sealed envelopes endorsed "Tenders Scheme No. 37," to be delivered to me at the Town Hall not later than First Post, TUESDAY, 24th October.

A. HAIGH.

Town Clerk.

BOROUGH OF WREXHAM.

CHESTER ROAD-PRICES LANE, GLYNDWR ROAD.

FIXED-PRICE TENDERS are invited for RE-KEYING, RESURFACING, FENCING, FATH, and Surface Water Drainage Works at the ABOVE. Drawings and General Conditions of Contract may be inspected, and Specification, Bills of Quantities and Forms of Tender obtained from Borough Engineer and Surveyor, Guildhall, Wrexham, on payment of a deposit of £2 2s. which will be refunded on receipt of a bona-fide Tender. Tenders, in the envelope provided, must be sealed and delivered to the undersigned not later than 12 Noon on MONDAY, 30th October, 1961. The Council does not bind itself to accept the lowest or any Tender.

PHILIP J. WALTERS.

Town Clerk.

Guildhall,
Wrexham.
October, 1961.

WANDSWORTH BOROUGH COUNCIL.

CONVERSION WORKS—STREATHAM.

Contractors wishing to TENDER for CONVERSION of 46 THRALE ROAD INTO FLATS and ERECTION of COMMON ROOM at 36/37 THRALE ROAD should submit names to me by WEDNESDAY, 18th October, 1961, giving details of experience, plant and technical and supervisory staff available together with names of two technical and two financial referees. Bills of quantities will be issued to selected contractors in due course. Drawings may be examined at Borough Engineer and Architect's Department.

J. NOEL MARTIN.

Town Clerk.

Municipal Buildings,
Wandsworth,
S.W.18.

CITY OF SALFORD.

PROPOSED ALTERATIONS AND NEW BUILDINGS FOR POLICE HORSES AND DOGS AT OAKWOOD PARK, SALFORD, 6.

FIRM-PRICE TENDERS are invited for the proposed ALTERATIONS AND NEW BUILDINGS for Police Horses and Dogs at OAKWOOD PARK, SALFORD, 6. Conditions of Contract and Drawings may be inspected at, and Bills of Quantities and Form of Firm-price Tender obtained from, the City Engineer and Surveyor's Dept., Town Hall, Salford, 3, on payment of a deposit of £3 3s. which will be returned on submission of a bona-fide Firm-price Tender not subsequently withdrawn. Firm-price Tenders on the prescribed form, sealed in the envelope provided and bearing no other mark or identification, must be forwarded to the undersigned so as to be received not later than 10 a.m. on WEDNESDAY, 15th November, 1961. The Council does not bind itself to accept the lowest or any Firm-price Tender.

R. RIBBLESDALE THORNTON.

Town Clerk.

EAST ELLOE RURAL DISTRICT COUNCIL.

WATER DEPARTMENT.
10IN. DIA. WATER MAIN.

TENDERS are invited for the LAYING of approx. 6,100 lin. yd. of 10in. dia. SPUN-IRON WATER MAIN, together with Valves, Hydrants, and ancillary works. Bills of Quantities, Specification and Form of Tender may be obtained from the Engineer and Manager, at the address below, on deposit of a fee of £2 2s. which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn. Plans of the proposals and the General Conditions of Contract (Institution of Civil Engineers, Fourth Edition, January 1955) may be inspected on appointment at the Office of the Engineer, at the address below.

Completed Tenders, on the form provided, together with all documents, should be returned to the undersigned, in a plain sealed envelope endorsed "Tender for 10in. Water Main," to be received not later than 10 a.m. on SATURDAY, 4th November, 1961. The Council does not bind itself to accept the lowest or any Tender.

J. C. PYWELL.

Clerk to the Council.

Council Offices,
Mattmore House,
Holbeach,
Spalding, Lincs.

CONTRACTS

COUNTY BOROUGH OF EASTBOURNE.

TO PAINTING CONTRACTORS.

TENDERS are invited for the CARRYING OUT of EXTERNAL PAINTING to the front elevation of the DEVONSHIRE PARK THEATRE, EASTBOURNE, and internal painting to the ceiling of the PAVILION in the WINTER GARDEN, EASTBOURNE. The internal work is to be completed during the period 8th January, 1962, to 29th January, 1962. The external painting can be started during the same period and completed prior to the end of February, 1962. Applications for tendering documents must be delivered to the Borough Surveyor, 2 and 4 Saffrons Road, Eastbourne, by the 18th OCTOBER, 1961, and must be accompanied by a deposit cheque for £2 payable to the Eastbourne Corporation. The deposit will be returned after the receipt of a bona-fide Tender.

Tendering documents will be issued on the 25th OCTOBER, 1961. No Tender will be considered unless sent in a plain sealed envelope, addressed to the undersigned and bearing the words "Tender for painting to the Devonshire Park Theatre and Winter Garden Pavilion," but devoid of any name or mark indicating the sender and delivered not later than 12 Noon on the 8th November, 1961.

The lowest or any Tender will not necessarily be accepted.

F. H. BUSBY.

Town Clerk.

Town Hall,
Eastbourne.

2nd October, 1961.

COUNTY BOROUGH OF HUDDERSFIELD.

ERECTION OF 30 DWELLINGS AT HEATHFIELD, CROSLAND MOOR.

Contractors are invited to submit an ALL-TRADES TENDER, on a firm-price basis, for the ABOVE WORK. Form of Tender and Bills of Quantities from the Borough Architect's Office, High Street Buildings, Huddersfield. Deposit £2 2s., refunded on receipt of a Tender not subsequently withdrawn. Sealed Tenders in the envelope provided to be delivered to the Town Clerk not later than 10 a.m. on THURSDAY, the 16th November, 1961. The Corporation do not bind themselves to accept the lowest or any Tender.

HARRY BANN.

Town Clerk.

Town Hall, Huddersfield.

CITY OF CARDIFF.

CITY SURVEYOR'S DEPARTMENT.

COWBRIDGE ROAD RELIEF SEWER.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of the COWBRIDGE ROAD RELIEF SEWER. The work comprises the construction of approx. 1,300 yd. of 48in. dia. sewer complete with 15 Manholes and an Overflow Chamber. Conditions of Tender, Specification, Bills of Quantities may be obtained from the City Surveyor at whose office Drawings and Conditions of Contract may be inspected and to whom application should be made accompanied by a deposit of the sum of £2 2s. Cheques should be made payable to the Cardiff Corporation and crossed "Not Negotiable and Co."

A deposit will be refunded on receipt of a bona-fide Tender or the return of the contract documents by the closing date. Tenders will not be considered unless enclosed in a plain sealed envelope endorsed "Tender for Cowbridge Road Relief Sewer," addressed to the undersigned at the City Hall, Cardiff, and sent by registered post or recorded delivery so as to be received not later than the 1st NOVEMBER, 1961. The envelope must not bear the name of, or any mark indicating the identity of the Tenderer. The Council does not bind itself to accept the lowest or any Tender.

S. TAPPER-JONES.

Town Clerk.

City Hall,
Cardiff.

27 September, 1961.

BASILDON URBAN DISTRICT COUNCIL.

IMPROVEMENT OF NOAK HILL ROAD, B.1007.

TENDERS will shortly be invited for this CONTRACT, consisting of Provision of Surface Water Sewerage, and Widening and Improvement of a length of about 1,200 yd. of Carriageway. Alternative Tenders for rigid and flexible construction are required. Experienced contractors should submit their names (together with names of two referees for whom they have recently carried out similar works), with £3 2s. deposit (refundable), to ENGINEER AND SURVEYOR, 88 Town Square, Basildon, by 16th OCTOBER, 1961.

DEVON RIVER BOARD.

WITHYCOMBE BROOK IMPROVEMENT SCHEME.

E20 CONTRACT W1.

TO CIVIL ENGINEERING AND PUBLIC WORKS CONTRACTORS.

The Board invites TENDERS for the CONSTRUCTION of approx. 800 yd. of 30in. wide REINFORCED CONCRETE CHANNEL, PRESTRESSED and 4 REINFORCED CONCRETE ROAD BRIDGES, earthworks and miscellaneous culverts, together with other ancillary works in connection with the above scheme. Particulars and Specification may be obtained and Plans inspected at the office of the Consulting Engineers, Messrs. HOWARD HUMPHREYS AND SONS, West Street, Epsom, Surrey, on and from Monday, 16th October, 1961, until Friday, 27th October, 1961, between 10 a.m. and 4 p.m. upon payment of a deposit of £5 5s. by cheque made payable to the Board which deposit, after the Board has reached a decision, will be returned to each contractor who has submitted a bona-fide Tender not subsequently withdrawn.

Prints of the Contract Drawings can be obtained on loan from the Consulting Engineers on payment of the net cost by cheque made payable to Howard Humphreys (Services). All prints so supplied are to be returned.

Tenders, on the official form, to be delivered to the undersigned in sealed envelopes, endorsed "Tender for Withycombe Brook Improvement Scheme," but bearing no name or other mark indicating the sender, by MONDAY, 27th November, 1961.

The Board does not undertake to accept the lowest or any Tender.

H. G. GODSALL.

Clerk to the Board.

The Castle,
Exeter.

October, 1961.

CONTRACTS

WEST PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY.

INDUS BASIN PROJECT.

ADVANCE NOTICE OF INTENT TO INVITE TENDERS FOR THE PROCUREMENT OF FIXED-WHEEL GATES.

In connection with the construction of a number of large canals and appurtenant structures to be undertaken as a part of the Indus Basin Project in West Pakistan, the above Authority intends to call for TENDERS for the FURNISHING of FIXED-WHEEL GATES, FRAMES, GUIDES and HOISTS. The gates and appurtenant equipment will be installed in regulating structures to control and regulate the flow of water in the canals. The procurement of the gates and appurtenant equipment will be financed through the Indus Basin Development Fund, which will be administered by the International Bank for Reconstruction and Development (World Bank).

The work will consist of furnishing all labour, services, materials, plant, equipment and supplies required to supply, f.o.b. manufacturer's plant, the required gates. The gates will be of the fixed-wheel type, 24ft. and 12ft. in width, and with heights varying from approx. 10ft. to 18ft. Gates higher than 12ft. will be fabricated in sections for field assembly at the site. Each gate to be furnished complete with gate frame, guide counterweight frame, and manually operated, cable-drum hoist. Approx. 29 gates will be required in the initial Tender, covering gates for the Trimmusidhul Link Canal, and additional gates of a similar type will be procured for other link canals periodically in the future.

Invitations to submit Tenders, along with Specifications for the work, will be issued only to firms presenting satisfactory evidence of having successfully produced equipment of a similar nature. Those firms who wish their names to be included on a list to receive the contract documents and Specifications are requested to submit the following information to the Authority's Consultants, TIPTON AND KALMBACH, INC., at Post Office Box 559, Lahore, West Pakistan, with a copy to their Office at 831 14th Street, Denver, 2, Colorado, U.S.A.:

- (1) Name of company or firm.
- (2) Country of domicile.
- (3) Full address, name and title of person to whom future correspondence should be directed.

(4) Record of experience on similar work in the form of a "brochure," list of equipment fabricated, and other data of a similar nature. The above information should be sent airmail to reach the Offices of the Authority's Consultants on or before 30th OCTOBER, 1961. The firms who have expressed an interest in the work by submitting the required information and satisfactory evidence of competency will subsequently receive the contract documents and Specifications and an invitation to submit a Tender for furnishing the gates, frames, guides and hoists for each link canal as the contract documents and Specifications are issued.

PROJECT DIRECTOR (LINKS).

West Pakistan Water and Power Development Authority.

WEST PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY.

INDUS BASIN PROJECT.

ADVANCE NOTICE OF INTENT TO INVITE TENDERS FOR THE PROCUREMENT OF BUTTERFLY VALVES.

In connection with the construction of a number of large canals and appurtenant structures to be undertaken as a part of the Indus Basin Project in West Pakistan, the above Authority intends to call for TENDERS for the FURNISHING of BUTTERFLY VALVES WITH MANUAL OPERATING MECHANISMS. The valves and operators will be installed in silt election structures to control the operation of silt from the canals. The procurement of the butterfly valves and operators will be financed through the Indus Basin Development Fund, which will be administered by the International Bank for Reconstruction and Development (World Bank).

The work will consist of furnishing all labour, services, materials, plant and equipment required to supply, f.o.b. manufacturer's plant, the required butterfly valves. The valves will be of the horizontal shaft, flange-type and in the size range of from 48in. to 60in. in diameter. The valves will have metal seats and seals, and are to be designed for operation under a head differential of approx. 25ft. Each valve is to be furnished complete with manual operating mechanism, stem, stem guide, and gearing. Approx. 28 valves will be required in the initial Tender, covering valves for the Trimmusidhul Link Canal, and additional valves of a similar type will be procured for other link canals periodically in the future.

Invitations to submit Tenders, along with Specifications for the work, will be issued only to firms presenting satisfactory evidence of having successfully produced equipment of a similar nature. Those firms who wish their names to be included on a list to receive the contract documents and Specifications are requested to submit the following information to the Authority's Consultants, TIPTON AND KALMBACH, INC., at Post Office Box 559, Lahore, West Pakistan, with a copy to their Office at 831 14th Street, Denver, 2, Colorado, U.S.A.:

- (1) Name of company or firm.
- (2) Country of domicile.
- (3) Full address, name and title of person to whom future correspondence should be directed.

(4) Record of experience on a similar work in the form of a "brochure," list of equipment fabricated, and other data of a similar nature. The above information should be sent airmail to reach the Offices of the Authority's Consultants on or before 30th OCTOBER, 1961. The firms who have expressed an interest in the work by submitting the required information and satisfactory evidence of competency will subsequently receive the contract documents and Specifications and an invitation to submit a Tender for furnishing the butterfly valves and manual operating mechanisms for each link canal as the contract documents and Specifications are issued.

PROJECT DIRECTOR (LINKS).

West Pakistan Water and Power Development Authority.

BOROUGH OF KEIGHLEY.

TRACTORS AND/OR AIR COMPRESSOR.

TENDERS are invited for the SUPPLY of TWO MODEL 203 MASSEY-FERGUSON TRACTORS, with Various Equipment, and also One 2-TOOL PORTABLE AIR COMPRESSOR.

Particulars may be received from the undersigned. The lowest Tender will not necessarily be accepted. Tenders, which may be for the Tractors or the Air Compressor, should be received by the Town Clerk, Town Hall, Keighley, not later than 10 a.m. on MONDAY, 23rd October, 1961, in plain envelopes endorsed "Tender for Tractors and/or Air Compressor," as applicable.

R. COURTENAY GIBSON.

Borough Engineer and Surveyor.

College Street,
Keighley.

CONTRACTS

BOROUGH OF WILLESDEN.
RECONSTRUCTION OF ACTON LANE-MORDAUNT ROAD TO STATION ROAD.

TENDERS are invited from experienced contractors for the REMOVAL of the EXISTING CARRIAGEWAY and the PROVISION of a new 6in REINFORCED CONCRETE SLAB surfaced with 2in. hot rolled asphalt and other incidental works.

Tender documents may be obtained from the Borough Engineer and Surveyor, Town Hall, Dyne Road, N.W.6, on receipt of a deposit of Two Guineas which deposit will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

The Sealed Tender must be submitted in the envelope provided which must not bear any name or mark of the Tenderer and must reach the undersigned not later than 10 a.m. on TUESDAY, 31st October, 1961.

The Council does not bind itself to accept the lowest or any Tender.

R. S. FORSTER,
Town Clerk.

Town Hall,
Dyne Road,
Kilburn, N.W.6.
September, 1961.

BOROUGH OF HERTFORD.
HAGSDILL ROAD—PRIVATE STREET WORKS.

Experienced firms are invited to submit their names for inclusion in a selected list of contractors for this Scheme.

The work will include Surface Water Drainage, Kerbing, Channelling, Lean-Mix Concrete Carriageway Base, Asphalt Surfacing (2,500 sq. yd.), Footpath Construction and Street Lighting.

Applications, in writing, are to be received by the undersigned not later than 9 a.m. on the 18th OCTOBER.

A. I. CLOUGH,
Town Clerk.

The Castle,
Hertford.

CITY OF MANCHESTER.

TENDERS invited for the ERECTION of the NORTHERN AREA FIRE STATION, Blackley.
Bill of Quantities from the CITY ARCHITECT, P.O. Box 488, Town Hall.
Tenders returnable by 1st NOVEMBER.

FARNBOROUGH URBAN DISTRICT COUNCIL.

CONCRETE BASES AND ACCESS ROAD TO 94 GARAGES.

TO ROAD CONTRACTORS.

TENDERS are invited for the CONSTRUCTION of CONCRETE BASES for 94 Garages on five separate Sites on various of the COUNCIL'S HOUSING ESTATES, together with Retaining Walls, Carriage-ways, Surface Water Drains, and other incidental works.

Specification, Bills of Quantities, Form of Tender can be obtained from the Council's Engineer and Surveyor, Municipal Offices, Alexandra Road, Farnborough, Hants, where Drawings may also be inspected during normal working hours.

Sealed Tenders, endorsed "Concrete Bases for 94 Garages," are to be forwarded, in the envelope provided, to reach the undersigned not later than First Post on WEDNESDAY, the 1st November, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

D. STUART JONES,
Clerk of the Council.

Town Hall,
Farnborough,
Hants.

HOWDEN RURAL DISTRICT COUNCIL.

BUBWITH AND FOGGATHORPE SEWERAGE SCHEME—CONTRACT NO. 2.
NEWPORT AND GILBERDYKE SEWERAGE SCHEME—CONTRACT NO. 2.

TENDERS are invited for the SUPPLY and ERECTION of PUMPING PLANT, complete with Electric Motors, Starters, and Accessories, as follows:

- At Bubwith and Foggathorpe:
Two 160 g.p.m. Sewage Pumps.
- At Newport and Gilberdyke:
Two 375 g.p.m. Sewage Pumps.
Two 260 g.p.m. Sewage Pumps.
Two 200 g.p.m. Sewage Pumps.
- One 100 g.p.m. Sludge Pump.

All the pumps required are of low static head. Pump manufacturers wishing to Tender should apply for the documents and Drawings to the Council's Consulting Engineers, JOHN H. HAISTE AND PARTNERS, Belmont House, 20 Wood Lane, Headingley, Leeds, 6, enclosing a deposit cheque value Three Guineas in respect of each Contract, made payable to the Howden R.D.C., such deposit to be refunded upon receipt of a bona-fide Tender and the return of all the documents.

Tenders are to be submitted to the undersigned not later than 12 Noon on the 27th OCTOBER, 1961. The Council do not bind themselves to accept the lowest or any Tender they may receive.

JOHN GREEN,
Clerk to the Council.

14 St. John Street,
Howden,
Goole, Yorks.

NORTHALLERTON RURAL DISTRICT COUNCIL.

FIVE OLD PEOPLE'S DWELLINGS—EAST COWTON, NORTHALLERTON.

TENDERS are invited for the ERECTION of FIVE OLD PEOPLE'S DWELLINGS, Single-storey, of Traditional Construction.

Specification, Working Drawings and Form of Tender obtainable from the Clerk of the Council, on deposit of Three Guineas which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn. Tenders, on the form provided, and enclosed in a plain sealed envelope endorsed "Housing Tender," are to be delivered to the undersigned by 10 a.m. on MONDAY, 30th October, 1961.

No undertaking is given that the lowest or any other Tender will be accepted.

Conditions of Contract may be seen at the Offices of the Clerk of the Council or at the Architects, MESSRS. BRIERLEY, LECKENBY AND REIGHLEY, F/A/R.I.B.A., 10 Lendal, York.

D. PARKIN,
Clerk of the Council.

Council Offices,
The Old Vicarage,
Northallerton,
2nd October, 1961.

CONTRACTS

CITY OF ROCHESTER.

ADDED AREA EARL ESTATE—STAGE 2.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of approx. 9,600 sq. yd. of REINFORCED CONCRETE CARRIAGEWAY and associated Kerbing and Slab Paving, together with Foul and Surface Water Sewers, Street Lighting, and ancillary works, at the ABOVE SITE.

The Drawings and General Conditions of Contract may be inspected at the Office of A. LUNEL, A.M.I.C.E., M.I.Mun.E., City Surveyor, 66 Maidstone Road, Rochester, during normal working hours. The Form and Conditions of Tender, Special Conditions of Contract, Specification and Bill of Quantities may be obtained at the above address on payment of a deposit of £2 2s. which will be refundable on receipt of a bona-fide Tender.

Tenders, in a plain sealed envelope endorsed "Added Area—Earl Estate—Stage 2," must be received by the undersigned not later than 12 Noon on MONDAY, 6th November, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

PHILIP H. BARTLETT,
Town Clerk.

Guildhall,
Rochester,
4th October, 1961.

CITY OF BIRMINGHAM.

TO PUBLIC WORKS CONTRACTORS.

The HOUSEBUILDING COMMITTEE invite TENDERS on a Fixed-price Basis for a Measure and Value Contract for the CONSTRUCTION of a CUL-DE-SAC and Foul and Surface Water Sewers, together with incidental works, on SITE ADJOINING HILLMOUNT, STRATFORD ROAD, Hall Green.

Copies of the Specification, Bills of Quantities and Forms of Tender may be obtained on payment of £2 2s. at the Office of SIR HERBERT J. MANZONI, City Engineer and Surveyor, Baskerville House, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. The deposit will be returned on receipt of a bona-fide Tender.

Plans for the Road and Sewerage Works can be seen at Rooms 339 and 39, respectively, Baskerville House, Civic Centre, Birmingham, 1.

Tenders, enclosed in the envelopes provided for the purpose, must be sealed and delivered at the Town Clerk's Office (Room No. 8.31), Council House, Birmingham, 1, not later than 12 Noon on WEDNESDAY, 1st November, 1961, when they will be opened. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON,
Town Clerk.

Council House,
Birmingham, 1.

BISHOP'S STORTFORD URBAN DISTRICT COUNCIL.

TENDERS are invited for the SUPPLY and DELIVERY of a 10 cu. yd. SIDE-LOADING REFUSE COLLECTING VEHICLE with Cab, giving seating for four loaders and a driver.

Tenders, to include painting and lettering to the Council's requirements, are to be returned to the undersigned, with full details of the vehicle offered, by SATURDAY, the 28th October, 1961.

A. N. BULLOUGH,
Clerk of the Council.

Council House,
Causeway,
Bishop's Stortford,
2nd October, 1961.

HAYES AND HARLINGTON URBAN DISTRICT COUNCIL.

PRIVATE STREET WORKS—GLEEDWOOD ESTATE.

TENDERS are invited for WORKS comprising Footway and Kerbing Works in Five Streets, Surfacing with Dense Bitumen Base Course and Surface Dressing in Gledwood Drive (Part I) approx. 2,200 sq. yd., Gledwood Crescent approx. 1,150 sq. yd., Gledwood Gardens approx. 1,400 sq. yd., and Gledwood Avenue approx. 1,280 sq. yd. Minor Repairs to Concrete Carriageway in Gledwood Drive (Part II) and Balmoral Drive.

Documents from Engineer and Surveyor, Town Hall, Hayes, Middx., on payment of £2 2s. deposit, returnable on receipt of a bona-fide Tender, not withdrawn.

Tenders, in sealed envelopes endorsed "Tender for Contract No. 628-633 P.S.W. Gledwood Estate," but not indicating the sender, to be received by CLERK AND SOLICITOR OF THE COUNCIL, at the above address by Noon, 14th NOVEMBER, 1961.

The Council does not bind itself to accept the lowest or any Tender.

FYLDE WATER BOARD.

SLUDGE STIRRING MECHANISM.

TENDERS are invited from experienced manufacturers for the SUPPLY, DELIVERY and ERECTION of an ELECTRICALLY DRIVEN SLUDGE STIRRING MECHANISM, 30ft. dia., at the STOCKS FILTRATION PLANT, Slaidburn, Yorks. W.R.

Tender documents may be obtained from the ENGINEER TO THE FYLDE WATER BOARD, Sefton Street, Blackpool.

Tenders to be received not later than 6th NOVEMBER, 1961.

LEEDS REGIONAL HOSPITAL BOARD.

TO HEATING CONTRACTORS AND LAUNDRY ENGINEERS.

FIXED-PRICE TENDERS are invited for CARRYING OUT the SUPPLY and INSTALLATION of LAUNDRY EQUIPMENT and Services thereto in a new CENTRAL LAUNDRY at ST. MARY'S HOSPITAL, DEAN ROAD, Scarborough.

Applications for Form of Tender and Specification and Drawings, accompanied by a deposit of £2 (which will be refunded on receipt of a bona-fide Tender and other Contract documents), must be made to the Regional Engineer at the undermentioned address not later than 12 Noon on WEDNESDAY, 25th October, 1961. Cheques should be made payable to the Leeds Regional Hospital Board, and crossed.

A copy of the Drawings, Conditions of Tender and Conditions of Contract may be inspected at the Office of the Regional Engineer.

Sealed Tenders, in the endorsed envelope provided, must be delivered to the undersigned not later than 12 Noon on THURSDAY, 30th November, 1961.

The Board does not bind itself to accept the lowest or any Tender.

WM. A. SHEE,
Secretary to the Board.

Park Parade,
Harrogate, Yorks.

CONTRACTS

ROYAL COUNTY OF BERKSHIRE.

NEW OFFICES AT THATCHAM DEPOT.

TENDERS are invited for the CONSTRUCTION of a NEW SINGLE-STORY DIVISIONAL SURVEYOR'S OFFICE at the County Highway Depot, Bath Road, Thatcham.

The works comprise the Erection of a Trustee's Frame and its Cladding with Brick and Tile, and completion internally. The building is approx. 51ft. 6in. x 24ft. 6in.

Copies of the Specification and Plans may be obtained from the Offices of the COUNTY SURVEYOR, Shire Hall, Reading, upon receipt of a deposit of £2 which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders are to be returned to the Shire Hall by Noon on FRIDAY, 10th November.

BOROUGH OF NEWCASTLE-UNDER-LYME.

GROSVENOR GARDENS AND VESSEY TERRACE SEWERAGE.

TENDERS are invited for the PROVISION and LAYING of approx. 160 yd. of 6in., 12in. and 15in. dia. SEWER of Concrete and Glazed Stoneware Pipes in Grosvenor Gardens and Vessey Terrace, and the Construction of two Circular Concrete Manholes, together with ancillary works.

Tender Forms and Bill of Quantities may be obtained from the Borough Engineer and Surveyor's Department, Lancaster Building, High Street, Newcastle-under-Lyme, Staffs.

Copies of the Form and Bill of Quantities must be returned to the undersigned not later than 12 Noon on WEDNESDAY, 18th October, 1961, in a plain sealed envelope endorsed "Tender—Grosvenor Gardens and Vessey Terrace Sewerage."

C. J. MORTON,
Town Clerk.

BOROUGH OF TWICKENHAM.

PRIVATE STREET IMPROVEMENT WORKS.

The CORPORATION hereby invite TENDERS for the MAKING-UP of CLIVE ROAD, Twickenham (approx. 770ft. long, 37ft. wide). The works comprise the Construction of a Carriageway, two Footways and the Re-laying of Kerbs. Plans may be inspected and Specification, etc., obtained upon application to the Borough Engineer, Municipal Offices, Twickenham, and the payment of Two Guineas deposit, returnable on receipt of a bona-fide Tender. Tenders in envelope supplied, not bearing any name or mark indicating the sender, to be delivered to the undersigned not later than 10 a.m. on MONDAY, 30th October, 1961. The Corporation do not bind themselves to accept the lowest or any Tender.

W. H. JONES,
Town Clerk.

Municipal Offices,
Twickenham.

BOROUGH OF DOVER.

EASTERN DOCKS APPROACH ROAD—STAGE 5—EAST CLIFF IMPROVEMENT.

TENDERS are invited for the RECONSTRUCTION and WIDENING of approx. 300 yd. of TRUNK ROAD (A.20). The work involves the Re-leveling of a Railway Track and the Construction of a Steel Sheet Pile Retaining Wall.

Tender documents may be obtained from the Borough Engineer, Brook House, Dover, on payment of a deposit of Two Guineas, returnable on receipt of a bona-fide Tender not subsequently withdrawn. Tenders, in envelopes provided, should reach the undersigned not later than Noon on the 28th OCTOBER.

JAMES A. JOHNSON,
Town Clerk.

New Bridge House,
Dover,
6th October, 1961.

PENRITH RURAL DISTRICT COUNCIL.

CENTRAL AND WESTERN AREA WATER SUPPLIES.

CONTRACT NO. 1.

FIXED-PRICE TENDERS are invited for the SUPPLY and LAYING of approx. 5,500 lin. yd. of 6in. dia. SPUN-IRON PIPE with Tyton Joints.

Form of Tender, Specification and Bill of Quantities may be obtained from the Council's Consulting Engineers, MESSRS. WARD, ASHCROFT AND PARKMAN, Chartered Civil Engineers, 38 The Temple, Dale Street, Liverpool, 2, on receipt of a deposit cheque for £2 2s. (made payable to the Penrith R.D.C.). Drawings may be inspected at the Consulting Engineer's Office, or at the Mansion House, Penrith. Tenders must be delivered, in accordance with the Instructions in the documents, to the undersigned not later than Noon on 13th NOVEMBER, 1961.

R. H. ALLEN,
Clerk of the Penrith R.D.C.

Mansion House,
Penrith, Cumb.

MALMESBURY RURAL DISTRICT COUNCIL.

WORKS OF SEWERAGE AND SEWAGE DISPOSAL AT GREAT SOMERFORD AND LITTLE SOMERFORD.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of about 8,300 lin. yd. of 9in. and 6in. dia. SEWERS and 3in. Rising Mains, together with 99 Manholes, 4 Pumping Stations and a Sewage Disposal Works with 10 Filters, Drying Beds, and all ancillary work, at Great Somerford and Little Somerford, near Malmesbury, Wiltshire.

Tendering documents may be obtained from, and the Plans inspected by appointment at, the Office of the Council's Consulting Engineers, MESSRS. HARVEY, MCGILL AND HAYES, 38 Market Place, Chippenham, Wiltshire.

Applications are to be accompanied by a cheque for £5, payable to the Malmesbury Rural District Council, and, in the case of contractors who have not previously carried out work for the Council, or under the supervision of the Engineers, by particulars of similar work done, and the names and addresses of the Engineers concerned. The deposit will be returned on receipt of a bona-fide Tender not subsequently withdrawn, and the return of all documents.

Tenders are to be delivered to the undersigned not later than 10 a.m. on FRIDAY, the 24th November, in a plain sealed envelope, endorsed "The Somerfords Sewerage and Sewage Disposal."

The Council do not bind themselves to accept the lowest or any Tender.

R. BUTT,
Clerk of the Council.

R.D.C. Offices,
10 High Street,
Malmesbury, Wilts.

CONTRACTS

OXFORDSHIRE COUNTY COUNCIL.
SONNING BACKWATER BRIDGES.

Contractors wishing to TENDER for the FOLLOWING WORKS should notify the County Surveyor, 81 Road, Oxford, not later than 26th OCTOBER: Supply and Drive 24 Steel B.S.P. Cased Piles; Supply and Erect Universal Beam Cross Girders and Bearing Pads as Mid-span Supports to six Girder Spans over the River Thames Backwater at Sonning, near Reading.

GERALD GALE BURKITT,
Clerk of the Council.

County Hall,
Oxford,
October, 1961.

BOROUGH OF STOURBRIDGE.
RECONSTRUCTION AND WIDENING OF
GLASSHOUSE HILL (PART).

TENDERS are invited for the ABOVE WORKS, consisting of approx. 430 lin. yd. of Kerbing; 1,000 sq. yd. of Carriageway in Premixed Water-bound Macadam and Bitumen Surfing, together with subbed Paving, Surface Water Drainage, and ancillary works.

Documents may be obtained from the undersigned on receipt of a deposit of £2 2s, which will be returned on receipt of a bona-fide Tender. Tenders, in plain sealed envelopes endorsed "Glasshouse Hill Reconstruction," to the Town Clerk, Glasshouse Hill, Stourbridge, by Recorded Delivery, not later than Noon, FRIDAY, 3rd November, 1961. The Council does not bind itself to accept the lowest or any Tender.

H. W. MORRIS, B.Sc.(Eng.), M.I.Mun.E.,
A.M.I.C.E.,
Borough Engineer and Surveyor.

Council House,
Stourbridge,
3rd October, 1961.

BOROUGH OF WANSTEAD AND
WOODFORD.PRINCES AVENUE (PART).
PRIVATE STREET WORKS.

TENDERS are invited for the ABOVE WORK, which includes approx. 350 sq. yd. Tarped Footways, 60yd. Kerbing, Verges, Repairs to existing Concrete Carriageway, and Surfacing with 2in. Cold Asphalt on approx. 650 sq. yd. Documents from the BOROUGH ENGINEER, Municipal Offices, Woodford, E.18, on payment of £2 deposit.

Tenders to be returned by 24th OCTOBER, 1961.

WEST KESTIVEN RURAL DISTRICT
COUNCIL.ROPSLEY HEATH WATER SUPPLY; EASTON WATER
SUPPLY.
COLSTERWORTH WATER SUPPLY IMPROVEMENT.

TENDERS are invited from responsible contractors for the FOLLOWING CONTRACTS:—
CONTRACT "A"—The Provision and Laying of about 2,100yd. of 6in. dia. Spun-iron Pipe Water Mains with Flexible Joints, etc., in the Parish of Colsterworth.

CONTRACT "B"—The Provision and Laying of about 2,500yd. of 3in. dia. Asbestos-cement Pressure Pipe Water Mains, etc., in the Parish of Easton.

CONTRACT "C"—The Provision and Laying of about 1,200yd. of 6in. and 5in. dia. Spun-iron Pipe Water Mains with Flexible Joints, etc., in the Parish of Colsterworth. Plans, Specifications and Bills of Quantities may be seen at the Offices of the Council's Consulting Engineers, MESSRS. ELLIOTT AND BROWN, Stanley House, Pelham Road, Nottingham, and copies of the Quantities and Forms of Tender may be obtained from them on deposit of Five Guineas (by cheque, payable to the West Kesteven R.D.C.), which will be refunded on receipt of a bona-fide Tender not afterwards withdrawn, and return of the Bills of Quantities and other documents loaned to contractor within seven days of notice informing him that a Tender has been accepted.

Tenders, in plain sealed envelopes endorsed "Water Supply—Ropsley," or "Water Supply—Colsterworth," to be delivered to me at Sandon Close, Grantham, not later than the First of November, FRIDAY, the 27th October, 1961 (the date for reception of Tenders for Contract "B" will be notified later to contractors requesting Tender documents). The lowest or any Tender will not necessarily be accepted.

Acceptance of Tender will be subject to the final approval of the Minister of Housing and Local Government. Work to be commenced immediately such approval is received.

J. R. MORGAN,
Clerk of the Council.

WEST KESTIVEN RURAL DISTRICT
COUNCIL.IMPROVEMENTS TO PRE-WAR HOUSES—
GREAT PONTON AND STAINBY.

TENDERS are invited for IMPROVEMENTS TO FOUR PRE-WAR HOUSES (Great Ponton) and FOUR PRE-WAR HOUSES (at Stainby). Drawings, Specifications and Form of Tender can be obtained from the Council's Surveyor, Sandon Close, Grantham, on receipt of deposit of £2 2s, by cheque made payable to the West Kesteven Rural District Council, which will be returned on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes marked "Improvements to Houses," to be forwarded to me at the Council Offices, Sandon Close, Grantham, by Noon on FRIDAY, the 27th October, 1961.

J. R. MORGAN,
Clerk of the Council.

WEST KESTIVEN RURAL DISTRICT
COUNCIL.FENCING—HOUSING SITES—COLSTERWORTH AND
CLAYPOLE.

TENDERS are invited for the PROVISION of 1,100yd. of DIVISION FENCING in Chain Link, secured to Concrete Posts, and 230yd. of BOUNDARY FENCING, secured to Concrete Posts, at the Housing Site, BOURNE ROAD, Colsterworth, and 265yd. of similar Fencing at CLAYPOLE. Specifications can be obtained from the Council's Surveyor, Council Offices, Sandon Close, Grantham. Tenders, in plain sealed envelopes endorsed "Fencing—Colsterworth," or "Fencing—Claypole," should be delivered to me at Sandon Close, Grantham, not later than Noon on FRIDAY, the 27th October, 1961.

J. R. MORGAN,
Clerk of the Council.

CONTRACTS

NORTH RIDING OF YORKSHIRE
COUNTY COUNCIL.

TENDERS are invited for the SUPPLY of the FOLLOWING EQUIPMENT in April, 1962, namely: Four Bedford 6-ton Tipper; one Ford Thames Diesel 7-ton Tipper; one Ford Thames 15cwt. Pick-up; four 1 cu. yd. Four-wheel Dumpers; two International Drott Shovels; one Caterpillar 955 Tractor Shovel; one Scammel 30-ton Machinery Transporter; one Ingersoll-Rand Compressor; one 8/10-ton Diesel Roller; one 6/8cwt. Hand-guided Vibrating Roller; six Portable Workmen's Shelters; one Ruston-Bucyrus 30RB Excavator; one Portable Diesel Engine Welding Set; one Steam Cleaner; one Johnston Suction Sweeper/Collector; one Allen Motor Scraper; and one Allen Rotary Sickle.

The Council have for SALE a 1947 Scammel 20-ton Machinery Transporter. Tender Forms may be obtained from the COUNTY SURVEYOR, County Hall, Northallerton, Yorkshire. The forms will give directions as to the method of submitting the Tenders, the closing date for the receipt of which is 13th NOVEMBER, 1961.

COUNTY BOROUGH OF CROYDON.

RECONSTRUCTION OF FOOTWAYS.

TENDERS are invited for the RECONSTRUCTION of MASTIC ASPHALT FOOTWAYS. Particulars and Form of Tender may be obtained from the Borough Engineer, Town Hall, Croydon. Closing date for Tenders: 17th NOVEMBER.

E. TABERNER,
Town Clerk.

BOROUGH OF BOSTON.

ERECTION OF 30 HOUSES.

TENDERS are invited for the ERECTION of 30 HOUSES in WOOD FARM ROAD, Boston, in groups of eight, 10, 12 or 30 houses.

Copies of the Plans, Conditions and Specifications and Form of Tender may be obtained from the Borough Engineer and Surveyor on payment of £2 2s, which will be refunded on receipt of a bona-fide Tender which is not subsequently withdrawn, and the return of the Plans to the Borough Engineer and Surveyor under separate cover. Tenders, in plain sealed envelopes endorsed "Housing," must be received by the undersigned by the 31st OCTOBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

C. L. HOFFROCK GRIFFITHS,
Town Clerk.

Municipal Buildings,
Boston, Lincs.

CITY AND COUNTY OF BRISTOL.

TENDERS are invited for SUPPLY of UNDERMENTIONED MATERIALS during the 12 months 1st January, 1962, to 31st December, 1962:

- Electric Lamps
- Transformers and Capacitors.
- Electrical Sundries.
- Electric Cables.
- Cement, Mortar, Plasters.
- Bricks, Tiles and Salt Glazed Ware.

Forms of Tender, Specifications and Conditions from CITY ENGINEER AND PLANNING OFFICER, Cabot House, Deane Road, Bristol.

Tenders to be returned by 28th OCTOBER. Lowest or any Tender not necessarily accepted.

THE URBAN DISTRICT COUNCIL OF
ABERDARE.

STREET WORKS—PAVEMENTS.

TENDERS are invited for PAVEMENT IMPROVEMENT WORKS in CANON STREET, Aberdare.

Bills of Quantities, etc., may be obtained from the Engineer and Surveyor, Vestry Hall, Aberdare. Tenders, in plain sealed envelopes bearing no mark or indication of the tender, but endorsed "Pavements—Canon Street," must reach me before FRIDAY, 3rd November, 1961.

D. G. JAMES,
Clerk of the Council.

Town Hall,
Aberdare.

5th October, 1961.

FAREHAM URBAN DISTRICT COUNCIL.

PRIVATE STREET WORKS.

TENDERS are invited for MAKING-UP THE RIDGEWAY, Fareham (total length approx. 300yd.), involving Provision of Surface Water Drainage, Kerb, Channel, Lean-Mix Concrete Carriageway Surfaced with Tarmacadam, Tarmacadam Surfaced Footpath, Verges, and other incidental works.

Plans may be inspected, and Tender documents obtained from Engineer and Surveyor, Westbury Manor, West Street, Fareham, Hants, on payment of deposit of £2, refundable on receipt of bona-fide Tender.

Tenders to me not later than 10 a.m. on 26th OCTOBER, 1961; other documents to Engineer and Surveyor by same date.

The Council do not bind themselves to accept the lowest or any Tender.

B. W. RANDS,
Clerk to the Council.

Merton,
5 Grove Road,
Fareham, Hants.

SAWBRIDGEWORTH URBAN DISTRICT
COUNCIL.IMPROVEMENTS TO COUNCIL HOUSES—
1-20 SMALL GAINS.

FIRM-PRICE TENDERS are invited for the IMPROVEMENT and MODERNISATION of 20 COUNCIL HOUSES situated at 1-20 Small Gains, Sawbridgegworth.

Bills of Quantities and Form of Tender may be obtained from the undersigned on deposit of the sum of Two Guineas which will be refunded on receipt of a bona-fide Tender.

Sets of Drawings are available for inspection at the Office of the Surveyor to the Council, Council Offices, Sawbridgegworth, or at the Office of the Architect to the Council, MESSRS. TOOLEY AND FOSTER, Midland Bank Chambers, Buckle Street, Hill, Essex.

Sealed Tenders are to be sent, in the envelope provided, to reach my Office not later than 12 Noon on MONDAY, 13th November, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. GODFREY,
Clerk of the Council.

Council Offices,
Sawbridgegworth,
Herts.

CONTRACTS

COUNTY COUNCIL OF DURHAM.

TENDERS invited for SUPPLY of SPORTS SHOES, SHORTS and VESTS to SCHOOLS. Forms of Tender, returnable by 27th OCTOBER, 1961, and details from undersigned.

G. H. METCALFE,
Director of Education.

Shire Hall,
Durham,
2nd October, 1961.

COUNTY BOROUGH OF BOURNEMOUTH.

BOROUGH ENGINEER'S DEPARTMENT.

SEWAGE DISPOSAL WORKS, BOURNEMOUTH.

CONTRACT NO. 6.

TENDERS are invited for the CIVIL ENGINEERING WORK on the CONSTRUCTION of a SLUDGE DISPOSAL WORKS at BERRY HILL, THROOP. Form of Tender, etc., available from Borough Engineer, Town Hall, Bournemouth, on payment of Two Guineas which will be refunded on receipt of a bona-fide Tender (not subsequently withdrawn) and the return of all documents.

Tenders to reach me by 8th DECEMBER, 1961.

A. LINDSAY CLEGG,
Town Clerk.

COUNTY BOROUGH OF BOURNEMOUTH.

BOROUGH ENGINEER'S DEPARTMENT.

SEWAGE DISPOSAL WORKS, HOLDENHURST.

CONTRACT NO. 5A.

TENDERS are invited for the CONSTRUCTION of a GENERATING STATION and SUPERSTRUCTURE of a PUMPING STATION at BERRY HILL, THROOP. Form of Tender, etc., available from Farmer and Dark, 14 High Street, Poole, on or after 20th OCTOBER, 1961.

Tenders to reach me by 10th NOVEMBER, 1961.

A. LINDSAY CLEGG,
Town Clerk.

COUNTY BOROUGH OF WALLASEY.

FLAGGING AND KERBING OF RIVERSDALE ROAD
AND THE GROVE, WALLASEY.

TENDERS are invited for FLAGGING and KERBING FOOTWAYS in the ABOVE ROADS.

Tender documents and Specifications are obtainable from the Borough Engineer and Surveyor, Town Hall, Wallasey, and must be returned by 10 a.m. on WEDNESDAY, the 18th October, 1961.

A. G. HARRISON,
Town Clerk.

COUNTY BOROUGH OF WALSALE.

TEACHERS' TRAINING COLLEGE.

The WALSALE COUNTY BOROUGH EDUCATION COMMITTEE will invite TENDERS in November, 1961 for the ERECTION of the WEST MIDLANDS TEACHERS' TRAINING COLLEGE and associated works at Walsall, at an estimated cost of approx. £600,000. The Buildings will be of Reinforced Concrete Construction, generally with Concrete Floors and Timber Roofs, and the Contract period will be limited to 20 months.

Interested contractors are asked to submit their names to the DIRECTOR OF EDUCATION, Darwall Street, Walsall, not later than 25th OCTOBER, 1961, stating that they are able and willing to submit a bona-fide Tender for a contract of this size, and can carry out the work expeditiously. Contractors will then be asked to furnish details regarding work previously carried out of a similar size and nature.

The Committee will, in consultation with the Architects, MESSRS. RICHARD SHEPPARD, ROBSON AND PARTNERS, of London, approve a short list of contractors who will be invited to tender in November, with the intention of starting on the site in December, 1961.

BOROUGH OF TAUNTON.

TENDERS are invited for the SUPPLY of the

UNDERMENTIONED GOODS and MATERIALS for a

period of one year commencing on 1st January, 1962:

- (a) Cement, Concrete Goods.
- (b) Roadweeper, Brushes, Mops.
- (c) Coal and Coke.
- (d) Electrical Goods.
- (e) Galvanised Pipes and Fittings.
- (f) Ironmongery, etc.
- (g) Paints, Brushes, Glass.
- (h) Road and Sewer Materials.
- (i) Timber, Masonite and Wallboard.
- (j) Petrol, Derv, Oil and Paraffin.
- (k) Tyres and Tubes.

Forms of Tender for each Schedule mentioned above, with Conditions to be observed, can be obtained from the Town Clerk, Municipal Buildings, Taunton, to whom Tenders, on the prescribed form enclosed in an envelope provided and endorsed as requested on each Form of Tender, must be sent to as to be received not later than 10 a.m. on 28th OCTOBER, 1961.

K. A. HORNE,
Town Clerk.

Taunton,
7th October, 1961.

SHEERNESS URBAN DISTRICT COUNCIL.

NEW ROAD—RECONSTRUCTION—SHEERNESS.

ROADS, SURFACE WATER DRAINS AND
FOOTPATHS.

TENDERS are invited for the CONSTRUCTION on the ABOVE SITE of about 4,340 super. yd. of TARRED MACADAM CARRIAGEWAY and 683yd. run of Surface Water Sewers, together with the Construction of approx. 1,627 super. yd. of Precast Concrete Slab Footpaths, and other ancillary works.

Specifications, Bills of Quantities and Forms of Tender may be obtained from, and General Conditions and Drawings inspected at, the Offices of the Council's Engineer and Surveyor, K. SCOTT, M.I.Mun.E., Council Offices, Trinity Road, Sheerness, Kent, upon deposit of Three Guineas which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Tenders, in plain sealed envelopes endorsed "New Road Reconstruction," must be delivered to the undersigned not later than Noon on MONDAY, 6th November, 1961.

(Signed) J. GRIFFITHS,
Clerk of the Council.

Council Offices,
Trinity Road,
Sheerness.

CONTRACTS

BEDFORDSHIRE COUNTY COUNCIL.

LONDON-INVERNESS TRUNK ROAD, A.6.
IMPROVEMENT NORTH OF CLOPHILL.

TENDERS are invited for the WIDENING of the existing TRUNK ROAD for a distance of approx. 1/4 mile, together with the Construction of a second Carriageway for a distance of approx. 1 mile. The works entail Site Clearance, Earthworks, Surface Water Drainage, Carriageway Construction in Dry Lean Concrete and Hot Rolled Asphalt, and Alterations to Statutory Undertakers' Services. Copies of the Conditions of Contract, Specification and Bills of Materials may be obtained from the County Surveyor, Dents Road, Bedford, on receipt of a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender or return of the documents before the closing date. Detailed Drawings may be inspected by appointment. Tenders must be delivered to the undersigned on or before FRIDAY, 3rd November, 1961, in the envelope provided. The Contract is subject to the approval of the Ministry of Transport, and the Council do not bind themselves to accept the lowest or any Tender received. GEORGE BREWIS, Chairman of the County Council.

Shire Hall,
Bedford,
October, 1961.

CITY OF WAKEFIELD.

CONSTRUCTION OF PLAYING FIELDS—
SNAPETHORPE SCHOOLS.

TENDERS are invited for the PROPOSED EXTENSION of Snapethorpe Schools Playing Fields. The Contract will include Bulk Excavation and Fill, Soiling and Seeding. Form of Tender, Bill of Materials and Specification can be obtained on application to the City Engineer, Town Hall, Wakefield. (Room 29.) Tenders, sealed in the official envelope, must be delivered to the undersigned not later than 12 Noon, MONDAY, 13th November, 1961. W. S. DES FORGES, Town Clerk.

WESTMINSTER CITY COUNCIL.

TENDERS are invited by 6th NOVEMBER, 1961, for UNIFORM CLADDING AND OVERALLS for 12 months commencing 1st January, 1962. Applications for forms, accompanied by large stamped addressed envelopes to TOWN CLERK, Westminster City Hall, Charing Cross Road, W.C.2.

ESHER URBAN DISTRICT COUNCIL.

CONSTRUCTION OF SURFACE WATER SEWER—
MOLESEY ROAD (CX.153), WEST MOLESEY.
CONTRACT NO. 326.

TENDERS are invited for the ABOVE-MENTIONED WORKS, which comprise the Provision and Laying of approx. 495 lin. yd. of 9 in. dia. to 18 in. dia. Concrete Pipes, the Construction of Manholes, Road Gullies and Connections, and ancillary works. The Form of Tender, Specification and Bill of Materials may be obtained from the Engineer and Surveyor and Planning Officer, Council Offices, Esher, on payment of a deposit of One Guinea which will be refunded on receipt of a bona-fide Tender, together with the return of all documents in good condition. Tenders, on the prescribed form, enclosed in the envelope provided, endorsed "Contract No. 326," and bearing no name or mark indicating the sender, must be returned to the undersigned and received by him not later than 5 p.m. on TUESDAY, the 31st October, 1961. The Council do not bind themselves to accept the lowest or any Tender. A. G. CHAMBERLIN, Clerk of the Council.

Council Offices,
Esher, Surrey.

KEYNSHAM URBAN DISTRICT COUNCIL.

BEECH ROAD IMPROVEMENT.

TENDERS are invited for the RECONSTRUCTION and SURFACING of approx. 2,020 sq. yd. of CARRIAGEWAY, the Construction of approx. 875 sq. yd. of Asphalt Footpaths, the Laying of 527 lin. yd. of Kerbs and Channelling, and 230 lin. yd. of 9 in. and 12 in. dia. Surface Water Sewer, together with the Improvement of Street Lighting, and other incidental works. Specification, Bill of Materials and Form of Tender may be obtained upon application to the Engineer and Surveyor, Council Offices, Keynsham, Bristol, on payment of a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn. Drawings and Conditions of Contract may be inspected at the Office of the Surveyor during normal office hours. Tenders, in plain sealed envelopes endorsed "Beech Road Improvement," must reach the undersigned not later than the First Post on TUESDAY, 7th November, 1961. The Council do not bind themselves to accept the lowest or any Tender. GEO. R. ASHTON, Clerk of the Council.

Council Offices,
Keynsham, Bristol,
6th October, 1961.

BARNACK RURAL DISTRICT COUNCIL.

TENDERS.

WITTERING/PILSGATE WATER SUPPLY—PART 1.

TENDERS are invited from contractors experienced in similar work for the LAYING of approx. 3,800 yd. of twin 6 in. dia. ASBESTOS-CEMENT WATER MAIN with Screw Gland Joints, including a Booster Station, Pressure Vessel, and all Valves, Hydrants, and Contingent Fittings. Form of Tender and relative documents can be obtained on payment of a deposit of Two Guineas, from the Council's Consulting Engineers, MESSRS. STIRLING, MAYNARD AND PARTNERS, 8 Station Chambers, Peterborough. The deposit cheque should be made payable to the Barnack R.D.C., and deposits will be returned on receipt of a bona-fide Tender. Tenders, in a plain envelope endorsed "Wittering/Pilgate Water Supply," to be delivered to the undersigned not later than First Post on FRIDAY, 3rd November, 1961. The Council do not bind themselves to accept the lowest or any Tender. G. P. WARTERS, Clerk to the Council.

Council Offices,
Broad Street,
Stamford, Lincs.

CONTRACTS

HOLLAND (Lincs.) COUNTY COUNCIL.

SUTTON BRIDGE COUNTY PRIMARY SCHOOL.

TENDERS are invited from building contractors for the ERECTION of a SIX-CLASS INSTALLMENT of an Eventual Eight-Class School at Sutton Bridge, Spalding, Lincs. Messrs. Morrison and Partners, of London, Architects to the Council, will be responsible for this project. Tender documents may be obtained from the County Architect, and Tenders must be returned to the undersigned by 10 a.m. on 27th NOVEMBER, 1961. H. A. H. WALTER, Clerk of the County Council.

County Hall,
Boston, Lincs.

COUNTY BOROUGH OF IPSWICH.

PURCHASE OF HOLMAN TRACTAIR 13
COMPRESSOR.

TENDERS are invited for the SUPPLY of one HOLMAN TRACTAIR 13 COMPRESSOR. Forms of Tender and further details may be obtained from the Borough Engineer and Surveyor's Office, 19 Tower Street, Ipswich. Tenders, in plain sealed envelopes bearing the words "Tender for Holman Tractair," but with no name or mark to indicate the sender, must be delivered to the undersigned not later than Noon on MONDAY, 13th November, 1961. The Council does not bind itself to accept the lowest or any Tender. J. C. NELSON, Town Clerk.

Town Hall,
Ipswich.

BOROUGH OF CHINGFORD.

HAMPTON ROAD SURFACE WATER RELIEF SEWER.

TENDERS are invited for the ABOVE WORKS which comprise the Laying of approx. 750 lin. yd. of 9 in.-30 in. Surface Water Sewer, the Construction of 14 Manholes, Reinstatement, and ancillary works. Forms of Tender, Bills of Materials, etc., may be obtained and the Specifications and Bill of Materials to the Borough Engineer and Surveyor, Town Hall, The Ridgeway, E.4, upon payment of a deposit of £2.25, returnable in respect of a bona-fide Tender only. Sealed Tenders, in the envelopes provided, are to be delivered to me not later than 12 Noon on TUESDAY, 7th November, 1961, and Tenders received after that time will not be considered. The Council does not bind itself to accept the lowest or any Tender. CLIVE DENNIS, Town Clerk.

Town Hall,
Chingford, E.4.

BOROUGH OF FLINT.

DUKE STREET REDEVELOPMENT.

ERECTION OF 40 UNITY TRADITIONAL
DWELLINGS.

FIXED-PRICE TENDERS are invited for the ERECTION of the ABOVE HOUSES, together with all necessary Site Works in connection therewith. Copies of the Specifications and Bill of Materials may be obtained from, and the Drawings and Contract inspected at, the Office of the Borough Engineer and Surveyor, Municipal Offices, Earl Street, Flint, on payment of a refundable deposit of £3.35. Tenders for the work, on the prescribed form, must be delivered to the undersigned not later than 12 Noon on MONDAY 30th October, 1961, in a plain sealed envelope endorsed "Tender for 40 Houses—Duke Street, Flint." The Council do not bind themselves to accept the lowest or any Tender. WILLIAM MCINTYRE, Town Clerk.

Town Hall,
Flint,
4th October, 1961.

CITY AND COUNTY OF BRISTOL.

TRAFFIC SIGNALS—FILTON ROAD-MONKS PARK
AVENUE.

TENDERS invited for SUPPLY and INSTALLATION of a SYSTEM of ELECTRICALLY ILLUMINATED AND OPERATED VEHICLE ACTUATED ROAD TRAFFIC CONTROL LIGHT SIGNALS at the ABOVE JUNCTION, and for the LIMITED ANNUAL MAINTENANCE of SAME after installation. Experienced firms may obtain copies of the Plan, Specification and Form of the Council, Civic Engineer and Planning Officer, Cabot House, Deanery Road, Bristol, 1. Tenders, enclosed in endorsed envelopes provided, but bearing no mark indicating sender, to CITY ENGINEER AND PLANNING OFFICER by 1st NOVEMBER.

BRIERLEY HILL URBAN DISTRICT COUNCIL.

HARD TENNIS COURTS—KING GEORGE VI PARK,
KINGSWINFORD.

TENDERS are invited for the CONSTRUCTION of HARD TENNIS COURTS in King George VI Park, Kingswinford. Drawings may be inspected, and further details obtained, at the Office of the Engineer and Surveyor, Civic Buildings, Briarley Hill, Staffs., from whom Form of Tender and Specification may be obtained upon payment of a deposit of Two Guineas which will be returned on submission of a bona-fide Tender not subsequently withdrawn. Tenders, enclosed in plain sealed envelopes and endorsed "Hard Tennis Courts—Kingswinford," should be returned to the Clerk of the Council, Civic Buildings, Briarley Hill, Staffs., so as to be received not later than Noon on THURSDAY, 2nd November, 1961. The Council do not bind themselves to accept the lowest or any Tender. HERBERT HEX, Clerk of the Council.

NANTWICH RURAL DISTRICT COUNCIL.

TENDERS are invited for the SUPPLY and DELIVERY of MONORAIL EQUIPMENT TO SEWAGE DISPOSAL WORKS at WISTASTON, near Crewe. Further information may be obtained from the Engineer and Surveyor, and Tenders must be returned by Noon on MONDAY, 6th November, 1961. (Signed) G. S. ASHWORTH, Clerk of the Council.

Nantwich R.D.C.,
Stapeley House,
Nantwich, Ches.,
6th October, 1961.

CONTRACTS

COUNTY COUNCIL OF THE
WEST RIDING OF YORKSHIRE.

TENDERS are invited for the DISMANTLING of a PREFABRICATED WEST RIDING CLASSROOM UNIT, BRAMHOPE COUNTY PRIMARY SCHOOL, BRAMHOPE LANE, Bramhope, near Leeds, and for TRANSPORTATION to and ERECTION at SADDLE WORTH GREENFIELD J.M.I. SCHOOL, SHAW STREET, Greenfield, near Oldham.

Plans and Specifications are available for inspection at the Offices of the Divisional Architect, Flint Street, Huddersfield, to whom applications to tender must be addressed.

Sealed Tenders must be addressed to me, the undersigned, and received at Room 3, County Hall, Wakefield, not later than 9 a.m. on TUESDAY, 14th November, 1961.

BERNARD KENYON,
Clerk of the County Council.

COUNTY BOROUGH OF PRESTON.

ENGINEER AND SURVEYOR'S DEPARTMENT.

REFUSE DISPOSAL TRANSFER STATION—
ARGYLL ROAD, PRESTON.

TENDERS are invited for the ERECTION of the ABOVE.

Drawings may be inspected at the Offices of the Borough Engineer and Surveyor, Municipal Building, Preston, from whom Bills of Materials and Quantities may be obtained on payment of a deposit of £2.25, returnable on receipt of a bona-fide Tender.

Tenders must be returned to the undersigned not later than 10 a.m., MONDAY, 6th November, 1961.

W. E. E. LOCKLEY,
Town Clerk.

BOROUGH OF REIGATE.

TENDERS invited for WIDENING AND RECONSTRUCTION of LONDON-BRIGHTON TRUNK ROAD, A.23, at REDHILL. 6,800 sq. yd. Reinforced Concrete Carriageway with Hot Rolled Asphalt Surfacing; 3,500 sq. yd. Footways; 1,000 lin. yd. Surface Water Sewers; Setting-back Boundaries; with Accommodation Works and ancillary works. Apply Borough Engineer and Surveyor for Contract documents, Plan Inspection, etc.

Sealed Tenders, in envelope provided, to the undersigned by THURSDAY, 16th November, 1961. The Council does not bind itself to accept the lowest or any Tender. HEBER DAVIES, Town Clerk.

Town Hall,
Reigate.

12th October, 1961.

BOROUGH OF LOWESTOFT.

MAIN DRAINAGE—CONTRACT NO. 1.

TENDERS are invited for the SINKING of about 45 BOREHOLES and TRIAL EXCAVATIONS along the lines of Proposed New Sewers and at the Sites of Proposed New Pumping Stations.

Tender documents may be obtained from the Council's Consulting Engineers, MESSRS. J. D. AND D. M. WATSON, M.M.I.C.E., 67 Tufston Street, Westminster, S.W.1, on and after Monday, 16th October, 1961, on payment of a deposit of Five Guineas, refundable only to contractors who submit bona-fide Tenders and return all documents and Drawings. Deposit cheques should be made payable to Messrs. J. D. and D. M. Watson. The Council do not bind themselves to accept the lowest or any Tender.

Tenders must be returned in envelopes which do not bear any name or mark indicating the sender, endorsed "Tender for Contract No. 1," and delivered at the Office of the undersigned by Noon on WEDNESDAY, 1st November, 1961. F. B. NUNNEY, Town Clerk.

Town Hall,
Lowestoft,
Suffolk.

HAVANT AND WATERLOO
URBAN DISTRICT COUNCIL.

PURBROOK SURFACE WATER DRAINAGE SCHEME.

The Urban District Council of Havant and Waterloo invite FIXED-PRICE TENDERS for the CONSTRUCTION of approx. 22 lin. yd. of 45 in. dia., 244 lin. yd. of 42 in. dia., 44 lin. yd. of 36 in. dia., 12 lin. yd. of 30 in. dia., 26 lin. yd. of 27 in. dia. and 15 lin. yd. of 24 in. dia. SURFACE WATER SEWERS, the Re-grading and Channelling of approx. 160 lin. yd. of Open Ditch, and ancillary works connected therewith. Conditions of Contract and Drawings may be inspected at the Office of the Engineer and Surveyor, 1 Park Road North, Havant, from whom Specifications, Bills of Materials and Form of Tender may be obtained.

No Tender will be received except in a plain sealed envelope which must bear the word "Tender," followed by the subject to which it relates, but shall not bear any name or mark indicating the sender. Tenders must be delivered to the CLERK OF THE COUNCIL, Town Hall Havant, not later than 12 Noon on MONDAY, the 6th November, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

SOUTH CAMBRIDGESHIRE
RURAL DISTRICT COUNCIL.

EASTERN AREA WATER SUPPLY.

RIVEY HILL RESERVOIR AND BOOSTER STATION—
CONTRACT NO. 5.

TENDERS are invited for the CONSTRUCTION, TESTING AND MAINTENANCE of a BOOSTER STATION, a 100,000-gallon POST-TENSIONED CIRCULAR CONCRETE RESERVOIR, and all other works incidental thereto.

A copy of the Contract documents may be obtained from the Council's Consulting Engineers, MESSRS. LEMON AND BLIZARD, 59 Tufston Street, Westminster, S.W.1, upon payment of a deposit cheque of Five Guineas made payable to the Council, which will be returned on receipt of a bona-fide Tender and the return of all documents.

The Form of Tender and a priced Bill of Materials must be delivered, in a sealed envelope, to the undersigned not later than TUESDAY, 7th November, 1961.

The Plans and Drawings may be seen during normal working hours at the Offices of the Consulting Engineers or the Council.

The Council do not bind themselves to accept the lowest or any Tender. F. H. M. SARGENT, Clerk of the Council.

County Hall,
Hobson Street,
Cambridge.

CONTRACTS

DURHAM COUNTY COUNCIL.

TENDERS are invited for the SUPPLY and DELIVERY of 10 ELECTRICALLY OPERATED DIESEL DELIVERY PUMPS.

Further particulars from the County Surveyor, Aysley Heads, Durham.
Tenders, in plain sealed envelopes endorsed "Tender for Diesel Pumps," to reach the undersigned not later than Noon on MONDAY, 6th November, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. T. BROCKBANK,
Clerk of the County Council.

Shire Hall,
Durham.

COUNTY BOROUGH OF SWANSEA.

TENDERS FOR THE SUPPLY OF VEHICLES.

TENDERS are invited for the SUPPLY of the UNDERMENTIONED VEHICLES to the Swansea Corporation:

- 2 Morris 1000 Travellers.
- 1 B.M.C. Type 5-ton Petrol Lorry.
- 2 B.M.C. 12 Type Trucks.
- 1 Morris 1000 Car.
- 2 Morris 1000 Scvt. Vans.
- 1 B.M.C. Type 10/12cwt. Van.
- 1 B.M.C. Type 5-ton Diesel Lorry.
- 1 B.M.C. Type 3-ton Diesel Lorry.
- 1 Tower Wagon (4-stage tower).

Forms of Tender, giving details of the above vehicles and of any vehicles to be taken in part exchange, may be obtained from the Borough Engineer and Surveyor, The Guildhall, Swansea.
Tenders, endorsed in sealed envelopes endorsed "Tender for Vehicles," bearing no name or mark indicating the sender, must be sent by Registered Post or delivered in exchange for a receipt so as to reach me not later than FRIDAY, 10th November, 1961.

IORWERTH J. WATKINS,
Town Clerk.

The Guildhall,
Swansea.
6th October, 1961.

BOROUGH OF WILLESDEN.

THIN COAT COLD ASPHALT SURFACING.

TENDERS are invited from experienced contractors for the PROVISION and LAYING of approx. 16,000 sq. yd. of THIN COAT FINE COLD ASPHALT SURFACING to VARIOUS ROADS within the Borough.
Tender documents may be obtained from the Borough Engineer and Surveyor, Town Hall, Dyne Road, N.W.6, upon application in writing, accompanied by a deposit of Two Guineas, which deposit will be returned upon receipt of a bona-fide Tender not subsequently withdrawn.

The sealed Tender must be submitted in the envelope provided, and must bear name or mark of the sender, and must reach the undersigned by not later than 10 a.m. on WEDNESDAY, 1st November, 1961.

The Council does not bind itself to accept the lowest or any Tender.

R. S. FORSTER,
Town Clerk.

Town Hall,
Dyne Road, N.W.6.

BOROUGH OF SLOUGH.

SEWAGE DISPOSAL WORKS.

Civil Engineering contractors, experienced in driving sheet piling, deep excavation and construction of water-retaining reinforced concrete tanks, and desirous of being considered for inclusion in a list of contractors to be invited shortly to submit TENDERS for the CONSTRUCTION of TWO HUMUS TANKS of about 330,000 gallons capacity each, are requested to submit their names, together with two engineering references, to the BOROUGH ENGINEER, Town Hall, Slough, Bucks., not later than 20th OCTOBER, 1961.

The Council does not bind itself to include the name of any contractor in the list of those to be invited to submit Tenders.

BOROUGH OF TAUNTON.

TENDERS are invited for ONE or BOTH of the FOLLOWING WORKS:

- (a) Provision and Installation of 63 Gas Sink Water Heaters; and
- (b) Provision and Installation of 83 Electric Sink Water Heaters, on the Lambrooke, Lyngford and Wedlands Estates.

Particulars, Specification and Tender Forms obtainable from H. G. COX, F.I.H.S., Housing Maintenance Superintendent, Lambrooke Farm Depot, Priory Avenue, Taunton.

Tenders must be sent to me not later than 10 a.m. on TUESDAY, 31st October, 1961.

K. A. HORNE,
Town Clerk.

CITY OF PETERBOROUGH.

HIGHWAYS ACT, 1959 (CODE OF 1892)—
MAKING-UP OF PRIVATE STREETS.

- (A) GARTON STREET.
- (B) BREWSTER AVENUE (PART).

TENDERS invited. Details from City Engineer, on receipt of £2 deposit.
Tenders to be returned in separate envelopes before Noon, 6th NOVEMBER, 1961.

C. PETER CLARKE,
Town Clerk.

Town Hall,
Peterborough.
October, 1961.

MILLIONS OF POUNDS' worth of work SECURED BY TENDERS PREPARED BY Britain's Top Private ESTIMATOR. Also help and advice on the organisation, large or small contracts, country-wide coverage.—Consult: R. J. CARR, 73 Leadenhall Street, London, E.C.3. Telephone: Avenue 9676-1120.

REQUIRED, SUB-CONTRACT PLUMBERS on labour and materials basis for school contract in Berkshire.—Write Box X.4985, "The Contract Journal."

For Contracts received too late for
classification see page 1813

APPOINTMENTS VACANT

ISLE OF ELY COUNTY COUNCIL.

HIGHWAYS AND BRIDGES DEPARTMENT.

DEPUTY COUNTY SURVEYOR.

APPLICATIONS are invited from qualified Civil Engineers for the ABOVE APPOINTMENT, as from 1st January, 1962. Salary within Scale £1,625 x £50—£1,875.

Application Forms and further particulars from the Clerk of the County Council, County Hall, March, Cambs. Closing date: 23rd OCTOBER, 1961.

R. F. C. THURLOW,
Clerk of the County Council.

County Hall,
March, Cambs.
2nd October, 1961.

BOROUGH OF WILLESDEN.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS in the Building Surveyor's Section:

- (a) General Assistants (2 Posts), within Grade A.P.T. II (£815-£960 p.a.).
- (b) General Assistant, within Grade A.P.T. I (£645-£815 p.a.).

London Weighting is payable in addition to both above salaries.

There is no age limit, but applicants should have had experience in the general work of a Building Surveyor's Office and the administration of Building By-laws and the Town Planning Acts. For one of the (a) posts, experience of dealing with the control of advertisements will be an advantage.

The Council are prepared to assist by making a mortgage advance for house purchase, and making a contribution up to £25 towards the cost of removal expenses.

Full details and Form of Application may be obtained from the Borough Engineer, Town Hall, Dyne Road, Kilburn, N.W.6, and must be returned to the undersigned not later than 10 a.m. on MONDAY, 23rd October, 1961.

(Signed) R. S. FORSTER,
Town Clerk.

BOROUGH OF WILLESDEN.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

APPLICATIONS are invited for the APPOINTMENT of CHIEF ENGINEERING ASSISTANT (Works). Salary £1,505-£1,670 p.a.

Applicants must have qualified as Chartered Civil or Municipal Engineers, and have had at least 10 years' experience subsequent to training. The person appointed will be responsible under the Assistant Civil Engineer for highway maintenance, the organisation and control of civil engineering direct works staff, the preparation of estimates, and such other duties as the Borough Engineer may determine.

A car allowance will be payable. The Council are prepared to make a mortgage advance for house purchase and to contribute towards the cost of removal expenses up to a maximum of £25.

Full details and Forms of Application obtainable from the Borough Engineer, Town Hall, Dyne Road, Kilburn, N.W.6, and must be returned to the undersigned not later than 10 a.m. on MONDAY, 23rd October, 1961.

(Signed) R. S. FORSTER,
Town Clerk.

BOROUGH OF WILLESDEN.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

APPOINTMENT OF TOWN PLANNING ASSISTANT, GRADE A.P.T. V.

APPLICATIONS are invited for the APPOINTMENT of TOWN PLANNING ASSISTANT. Salary A.P.T. V (£1,310-£1,480 p.a. plus London Weighting).

Candidates must possess appropriate qualifications and have had good experience in dealing with planning applications and general Town Planning administration. The Council are prepared to assist by making a mortgage advance for house purchase, and making a contribution up to £25 towards the cost of removal expenses.

Full details and Form of Application may be obtained from the Borough Engineer, Town Hall, Dyne Road, Kilburn, N.W.6, and must be returned to the undersigned not later than 10 a.m. on MONDAY, 23rd October, 1961.

(Signed) R. S. FORSTER,
Town Clerk.

BOROUGH OF TOTTENHAM.

APPLICATIONS are invited for the ESTABLISHED POST of ASSISTANT ROADS AND SEWERS SUPERINTENDENT in the Borough Engineer and Surveyor's Department. A.P.T. Grade II (£815 to £960 p.a. plus London Weighting allowance). Car allowance payable.

The person appointed will be required to reside in a house in the Central Depot, for which an appropriate rental will be payable.

Applicants must have had extensive and practical experience, preferably with a local authority in the construction and repair of roads and sewers. In addition, they must possess the ability to control large numbers of workmen.

Application Form, Conditions of Appointment and further particulars from the Borough Engineer (CJ), Town Hall, Tottenham, N.15, to whom applications should be delivered not later than SATURDAY, 28th October, 1961.

M. LINDSAY TAYLOR,
Town Clerk.

BOROUGH OF CASTLEFORD.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

CLERK OF WORKS.

APPLICATIONS are invited for this APPOINTMENT at a salary in accordance with Grade A.P.T. I (£645-£815) of the National Scale of Salaries.

Candidates should be experienced in the supervision of contracts for civil engineering works, including the construction of roads and sewers, and should be capable of making reports, setting-out, levelling and measurement of such work.

N.J.C. Service Conditions; superannuable; terminable on either side on one month's notice; housing accommodation will be provided, if necessary, for successful married applicant.

Applications, on forms obtainable from me, should be returned not later than 9 a.m. on the 27th OCTOBER, 1961.

Canvassing disqualifies.

ERNEST HUTCHINSON,
Town Clerk.

Town Hall,
Castleford, Yorks.

APPOINTMENTS VACANT

CENTRAL ELECTRICITY GENERATING BOARD.

ASSISTANT QUANTITY SURVEYOR REQUIRED in the Chief Design and Construction Engineer's Department in London.

The successful candidate will be required to work in the Quantity Surveying Section of the Civil Engineering Branch and to assist the Quantity Surveyor in work in connection with the cost analysis of building and civil engineering works associated with power station construction, the co-ordination of methods of preparing bill of quantities and contract documents, the critical examination of draft and tender documents, analysis of prices, agreement of rates, and assessment of claims.

Candidates should have some experience of cost analysis and the preparation of contract documents and settlement of the final accounts for large building and civil engineering works, preferably associated with modern power station construction, and should have qualifications equivalent to Associate of the Royal Institution of Chartered Surveyors or the Institute of Quantity Surveyors.

Salary on Scales within the range £1,520-£2,010 p.a. annum.

Applications, stating age, qualifications, experience, present position and salary, to the APPOINTMENTS OFFICER, 24/30 Holborn, London, E.C.1, by 27th OCTOBER. Quote Ref. C/456.

CENTRAL ELECTRICITY GENERATING BOARD.

MIDLANDS PROJECT GROUP.

FOURTH ASSISTANT ENGINEER (CIVIL)—
QUANTITIES.

APPLICATIONS are invited for the APPOINTMENT of FOURTH ASSISTANT ENGINEER (CIVIL)—Quantities, in the Midlands Project Group at Bournville.

Applicants should be competent Quantity Surveyors with experience in estimating, billing and measurement for power stations or other large industrial buildings and ancillary works—particular experience in site measurement would be an advantage.

Applicants should preferably hold an appropriate qualification. The salary for the appointment will be within Scale X (£1,070-£1,325 p.a.) of the National Joint Board Agreement.

Applications should be made on Standard Form AE available from the ADMINISTRATIVE OFFICER, Midlands Project Group, P.O. Box 314, Birmingham, 30, and should be returned to him not later than 30th OCTOBER, 1960.

Envelopes should be marked "Confidential," quoting Staff Vacancy No. MPG.61/61.

COUNTY BOROUGH OF HUDDERSFIELD.

WATERWORKS DEPARTMENT.

APPOINTMENT OF ENGINEERING ASSISTANT.

APPLICATIONS are invited for the POST of ENGINEERING ASSISTANT in the Waterworks Engineer's Department. Salary A.P.T. III (£960-£1,140 p.a.).

Applicants should hold a Degree in Engineering, or have passed Parts 1 and 2 of the Institution of Civil Engineers, and have at least five years' experience (including training period).

Preference will be given to persons having experience with a Water Undertaking.

The appointment is subject to the National Scheme of Conditions of Service, and superannuable subject to medical examination.

Application giving details of age, training, qualifications and experience, and the names of two referees, should be forwarded to the Water Engineer and Surveyor, 24 Ramsden Street, Huddersfield, not later than the 25th OCTOBER, 1961.

Canvassing will disqualify.

HARRY BANN,
Town Clerk.

Town Hall,
Huddersfield.
26th September, 1961.

BOROUGH OF HESTON & ISLEWORTH.

APPOINTMENT OF SENIOR ENGINEERING ASSISTANT.

APPLICATIONS are invited for the POST of SENIOR ENGINEERING ASSISTANT at a salary in accordance with Grade V of the A.P.T. Division of the National Joint Council's Scale of Salaries (£1,310-£1,480 plus London Weighting).

Candidates should have good civil or municipal engineering experience and must have passed the Final Examination of either the Institution of Civil Engineers or Municipal Engineers.

The Council is unable to assist the successful candidate with housing accommodation.

Applications, on forms to be obtained from the Borough Engineer and Surveyor, 88 Lampton Road, Hounslow, must be returned to him not later than 23rd OCTOBER, 1961.

Will applicants please quote Code CJ.

D. MATHIESON,
Town Clerk.

Town Hall,
Hounslow, Middx.

PETERLEE DEVELOPMENT CORPORATION.

APPOINTMENT OF CLERK OF WORKS.

APPLICATIONS are invited for the APPOINTMENT of CLERK OF WORKS in the Chief Engineer's Department.

Starting salary will be dependent upon age, qualifications and experience, and will be on A.P.T. Grade II (£815-£960) for New Towns.

Applicants must have had considerable practical experience in the construction of roads and sewers, and be thoroughly competent to supervise works under construction. They should be thoroughly conversant with the keeping of the necessary records for such work, and previous experience as Clerk of Works is essential.

The appointment, which is superannuable, is subject to the Corporation's Conditions of Service, and will be terminable by one month's notice on either side. The successful applicant will be required to pass a medical examination.

Applications, stating age, experience and qualifications, and giving the names of two persons to whom reference can be made, should reach the undersigned not later than 6th NOVEMBER, 1961.

Housing accommodation will be made available if required.

A. V. WILLIAMS,
General Manager.

Shotton Hall,
Old Shotton,
Peterlee,
Co. Durham.

APPOINTMENTS VACANT

THE WAR DEPARTMENT.

CIVIL ENGINEERING LABORATORY STAFF—
CHESSINGTON, SURREY AND CYPRUS.

The WAR DEPARTMENT WORKS ORGANISATION REQUIRES ENGINEERS in the Professional Class (Basic Grade) or Technical Class (Grade 1) to fill on first appointment POSTS at Chessington, Surrey, and at Dhekelia in Cyprus, for testing and research in civil engineering laboratories.

At Chessington, the work will cover site investigation, soil analysis, testing of concrete, bituminous and other building and engineering material, and preparation of reports and recommendations; it will afford opportunities for research and development work. In Cyprus, the emphasis will be on testing materials. Knowledge and experience in structural design will be an advantage.

Qualifications.—Applicants should possess technical knowledge to the standard of H.N.C., or higher. Appropriate experience is required.

Salary.—National Rates—Professional Class: £936 (age 25)–£1,430; Technical Class (Grade 1): £1,128–£1,388 plus; Chessington: £40 to £50 Outer London addition; Cyprus: £60 Inner London addition and comprehensive allowances; family passages, and facilities for children's education.

Working conditions include a five-day week and, on first appointment, three to four weeks' leave a year, as well as public holidays. The initial appointment to Cyprus will be for a tour period of three years but an extension or further tour may be available. For the right type of candidate there are opportunities to qualify for a pensionable post with a non-contributory pension.

Apply, giving age, brief relevant details of education, qualifications and experience, to CHIEF CIVIL AND STRUCTURAL ENGINEER, the War Office, Chessington, Surrey.

COUNTY BOROUGH OF
BARROW-IN-FURNESS.BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT.APPOINTMENT OF ENGINEERING ASSISTANT—
GRADE III/IV.

APPLICATIONS are invited for the PERMANENT APPOINTMENT OF ENGINEERING ASSISTANT on Grade III/IV (£960-£1,310). The commencing salary will be fixed within these limits, according to qualifications and experience.

Candidates must have passed the Final Examination of the Institution of Civil Engineers or of the Institution of Municipal Engineers, and have had good general experience.

It is possible that the Council will allocate a Corporation house for the post, subject to the merits of the case being satisfactory to the interviewing Committee.

The Department works a 5-day week.

Further details of the post, Conditions of Appointment and Forms of Application may be obtained from the Borough Engineer and Surveyor, Town Hall, Barrow-in-Furness, to whom completed Application Forms must be returned not later than MONDAY, 23rd October, 1961.

LAWRENCE ALLEN,
Town Clerk.

Town Hall,
Barrow-in-Furness.

METROPOLITAN BOROUGH OF
BERMONDSEY.

SENIOR WORKS ASSISTANT.

BUILDING DEPARTMENT.

APPLICATIONS are invited from persons under 51 years of age for the ABOVE PERMANENT POST, A.P.T. Grade V (£1,355-£1,525 p.a., including London Weighting).

Applicants must have considerable experience, and the successful applicant will be responsible to the Building Manager for the control and organisation of all new building works.

Full details and Application Forms, from the undersigned, to be returned not later than 1st NOVEMBER, 1961.

J. S. LAMBERT,
Town Clerk.

Municipal Offices,
Spa Road,
Bermondsey, S.E.16.

CITY OF BIRMINGHAM
PUBLIC WORKS DEPARTMENT.

CLERK OF WORKS.

APPLICATIONS are invited for the APPOINTMENT OF CLERK OF WORKS (Structural and Civil Engineering), in connection with the construction of elevated carriages, vehicle underpasses, subways, etc., in the redevelopment of the city.

Applicants should have considerable experience in reinforced concrete construction and general civil engineering works and building construction, and be able to obtain high standards of workmanship.

Salary, according to experience, within Miscellaneous Division, Grade VIII (£875-£925 p.a.).

The post is permanent, superannuable, and subject to a medical examination.

Applications, stating age, qualifications and experience, should be received by the undersigned not later than 21st OCTOBER, 1961.

HERBERT J. MANZONI,
City Engineer and Surveyor.

Baskerville House,
Civic Centre,
Birmingham, 1.

THE URBAN DISTRICT COUNCIL OF
HEXHAM.APPOINTMENT OF ESTIMATING AND
COSTING CLERK.

APPLICATIONS are invited for this APPOINTMENT in the Engineer and Surveyor's Department, at a salary in the range A.P.T. I or II (£645-£815 or £815-£960), according to qualifications and experience.

Candidates should have experience in similar work with a local authority or a builder or civil engineering contractor. Further particulars of the duties may be obtained from the Engineer and Surveyor. Preference will be given to candidates with the appropriate technical qualifications.

The appointment is subject to the Provisions of the Local Government Superannuation Acts and the National Scheme of Conditions of Service. Housing accommodation or facilities for house purchase will be available.

Applications, stating age, qualifications and experience, with the names of two persons to whom reference may be made, to be delivered to the ENGINEER AND SURVEYOR, Hexham House, Hexham, Northumberland, and not later than the 28th OCTOBER, 1961.

APPOINTMENTS VACANT

SOMERSET COUNTY COUNCIL.

APPLICATIONS are invited for the POSTS of ENGINEERING ASSISTANT in Head Office at Taunton. Salary within the A.P.T. Grades III/IV (£960-£1,310), according to qualifications and experience. Essential user car allowance. Assisted purchase available.

Full particulars and forms obtainable from the undersigned.

Closing date: 30th OCTOBER, 1961.
J. H. H. WILKES,
County Surveyor.

County Hall,
Taunton.

STAFFORDSHIRE COUNTY COUNCIL.

COUNTY ROADS AND BRIDGES DEPARTMENT.

APPLICATIONS are invited for an ASSISTANT to carry out testing and other work in the County Council's Highways Laboratory at Gnosall (near Stafford).

The appointment will be on Grade A.P.T. I/II (£645-£960) of the National Scales, commencing salary according to qualifications and experience, and will be subject to the Provisions of the Local Government Superannuation Act, 1957.

A flat will be available, if required, at Gnosall for the successful candidate.

The Laboratory is fully equipped with the most modern apparatus for testing bitumen and concrete products, and for investigating the problems of soil mechanics. The work will provide most valuable experience to the Young Engineer or Chemist wishing to enter the rapidly expanding field of civil engineering laboratory work, or to gain experience in the testing of materials, etc.

The County Council will for a period of six months grant a lodging allowance of 35s. per week, and second-class return railway fare home every two months to the successful candidate, if married and maintaining a home outside the geographical county. The Council will also consider granting financial assistance towards any expenses reasonably incurred in connection with the removal of a successful applicant's furniture and household goods.

Canvassing of members of the County Council or any Committee of the County Council, directly or indirectly, with a view to the appointment of candidates must state in their applications whether or not they are related to any member of senior officer of the Council.

Applications, on forms obtainable from the County Surveyor, County Buildings, Stafford, should reach him not later than 10 a.m. on 30th OCTOBER, 1961.

T. H. EVANS,
Clerk of the County Council.

October, 1961.

MIDDLESEX COUNTY COUNCIL.

COUNTY ENGINEER'S DEPARTMENT.

TECHNICAL ASSISTANTS REQUIRED. A.P.T. I (£645-£815) and Grade A.P.T. II (£815-£960) plus London Weighting up to £40. Prescribed conditions.

Applications invited for JUNIOR TECHNICAL ASSISTANTS for Bridge Section. Must be experienced in detailing reinforced concrete structures, with some knowledge of design of structures.

Application Forms from COUNTY ENGINEER, Middlesex House, 20 Vauxhall Bridge Road, S.W.1. (Quote M.581C.)

POPLAR BOROUGH COUNCIL.

PAINTING SUPERVISOR REQUIRED. Salary on Grade A.P.T. I (£685-£855, including London Weighting). 42-hour week. Permanent, superannuable post.

Application Forms from BOROUGH ENGINEER AND SURVEYOR, Poplar Town Hall, Bow Road, E.3. Closing date—30th OCTOBER, 1961.

BOROUGH OF TAUNTON.

WATERWORKS DEPARTMENT.

APPOINTMENT OF CHEMIST AND
BACTERIOLOGIST.

APPLICATIONS are invited for the ABOVE APPOINTMENT at a salary in accordance with A.P.T. IV (£1,140-£1,310).

Candidates should hold a Degree in Chemistry, and be Members of the Royal Institute of Chemists. Experience of water treatment and examination is essential.

The Corporation supplies, at the present time, the Statutory Water Area which includes Taunton and parts of the Rural District Councils of Taunton and Wellington, and bulk supplies to the Taunton, Wellington and Wilton Rural District Councils. It is probable a Water Board will be formed shortly of 10 Water Authorities in the West Somerset area.

The Corporation have two rapid gravity filter stations and a borehole supply.

Further particulars may be obtained from the Engineer and Manager.

The appointment will be superannuable, and the successful applicant will be required to pass a medical examination.

Applications, stating age, education, experience, etc., together with the names of three referees, to be sent to W. J. WONNACOTT, M.I.C.E., M.I.W.E., Engineer and Manager, Flook House, Station Road, Taunton, not later than 28th OCTOBER, 1961.

K. A. HORNE,
Town Clerk.

Municipal Buildings,
Taunton.

QUANTITY SURVEYORS AND MEASUREMENT

ENGINEERS REQUIRED by national firm of civil engineering and building contractors, for contracts in England and Wales. Basic salary £1,400-£1,500 p.a., depending on experience; superannuation and bonus schemes in operation; subsistence allowance of £240 p.a. will be paid where appropriate. Applications should give full details of previous experience, and will be treated in strict confidence. — Write Box V.4942. "The Contract Journal."

HUSSEY, EGAN AND PICKMERE, LTD.

A number of vacancies are available for SENIOR and JUNIOR ENGINEERS on contract sites in England and Wales. Permanent posts with attractive prospects. Apply, with details of education, training and experience, to

HUSSEY, EGAN AND PICKMERE, LTD.,
24 Calthorpe Road, Edgbaston, Birmingham, 15.
Telephone: Edgbaston 3661.

GENERAL FOREMAN REQUIRED for contract and development work on the East Sussex coast. Write, stating age, and salary, required, to Box V.4938. "The Contract Journal."

APPOINTMENTS VACANT

AGENT and GENERAL FOREMAN REQUIRED for expanding established civil engineering contractor, for contracts valued at £30,000 to £150,000 in Southern England. Good experience essential. Young man preferred. Good opportunity exists in progressive, growing, inland contract for nine months in Dunstable.—Write, giving full details of previous experience and work, age, and present salary to NICHOLSON CONSTRUCTION CO., LTD., Freland House, Cranleigh, Surrey.

M. J. GLEESON (CONTRACTORS), LTD.

Wish to appoint a CONTRACTS MANAGER to undertake complete supervision of large building contracts in the London area. The position requires a man with marked ability to carry through contracts from inception to completion. This is a top-class appointment carrying a commensurate salary, and the successful candidate will have a proven record of success in a previous similar position.—Please write, quoting Ref. CM/1, to:

Mr. P. M. Healy, Personnel Officer,
M. J. GLEESON (CONTRACTORS), LTD.,
Haredon House, London Road, North Cheam, Surrey.

SITE ENGINEER, experienced in quality control of high-grade concrete, for major bridgework in North West. Age 25-30. Particulars to Chief Civil Engineer, CLEVELAND BRIDGE & ENGINEERING CO., LTD., Darlington.

VACANCIES for experienced REINFORCED CONCRETE AGENTS, ENGINEERS, FOREMEN, etc. Some opportunities civil engineering and general building. Labour-only sub-contracts available, general high-quality formwork. Areas: West London, Winchester and South Coast.—Applications to CAMPBELL and MCGILL, LTD., Winchester.

COST AND BONSING SURVEYOR REQUIRED in head office of flooring contractors, S.E. London. Good salary plus non-contributory pension scheme. Write, stating age, experience, and salary required, to Box V.4932. "The Contract Journal."

PILING FOREMAN REQUIRED: Cheshire and Motorway. SIR LINDSAY PARKINSON and CO., LTD., Dunnockfold Road, Alsager, Cheshire.

SITE ENGINEERS

Applications invited from suitable men, preferably with engineering qualifications, for posts in West and Monmouthshire. Good prospects, salary and opportunity for advancement to keen men.—Write, in confidence, with full particulars, quoting Ref. SW/2, to:

Personnel Officer,
M. J. GLEESON (CONTRACTORS), LTD.,
Haredon House, London Road, North Cheam, Surrey.

SURVEYOR REQUIRED for building and civil engineering contractor operating mainly in Southern England, with head office near Guildford. Successful applicant will be head office based, visiting various contracts. Duties will include preparation of accounts and final checking of sub-contractors' accounts, detailing of requirements for contract materials, summarising cost details, and assisting with programming. Contracts range from £30,000 to £300,000. Good opportunity exists in an expanding, established organisation for energetic and diligent man.—Write, giving full particulars of training and previous experience, with age and present salary, to Box V.4912. "The Contract Journal."

ASSISTANT MANAGER REQUIRED for Scottish area by established firm carrying out asphalt contracts on a national basis. Applicants, between the age of 30 and 40, must have proved administrative capabilities and be capable of co-ordinating staff and work. Experience in mastic and rolled asphalt and bituminous macadam essential. Pension scheme and good prospects for young men who wish to progress. Write Box V.4901. "The Contract Journal."

AGENTS AND ENGINEER AGENTS

Men with engineering qualifications and sound practical experience REQUIRED for posts in South Wales and Monmouthshire. Knowledge of cofferdam work and heavy timbering desirable. Some experience of building work an advantage. Permanent posts and suitable remuneration with well-established company. Write, in confidence, with full particulars, quoting Ref. SW/3, to:

Personnel Officer,
M. J. GLEESON (CONTRACTORS), LTD.,
Haredon House, London Road, North Cheam, Surrey.

SURFACING department of well-known firm of public works contractors REQUIRE ESTIMATOR for their London office. Experienced in pricing the laying by machine and hand, of tarred macadam and asphalt surfacing. The position is permanent, and applicants should state their age, experience, and salary required. All replies will be treated in strict confidence. Write Box V.4943. "The Contract Journal."

AN excellent opportunity exists for two ambitious but good BUILDING and CIVIL ENGINEERING TYPES. Personal assistants to Directors. Duties will include acting generally as Contract Managers. Age approx. 30/40.—Apply JOHN FINLAN, LTD., Halebank, Widnes.

SITE AGENT WANTED for water main laying in reservoir contract in Gwent area. Must have full experience in this kind of work. State age, years of experience, and salary required. First-class opportunity for first-class man. Apply in writing to BEECHWOOD CONSTRUCTION CO., LTD., Rhosmaen Llandello, Carmarthen.

TARMAC REQUIRE AGENTS, SUB-AGENTS and SENIOR ENGINEERS for medium and large-sized civil engineering contracts in England and Wales. Applicants should have previous contracting experience in heavy industrial work, dams, motorways, or general public works. Basic salary commensurate with experience; bonus and superannuation schemes in operation. Applications, which should give full details of previous experience, will be treated in strict confidence, and should be addressed to the Personnel Officer, TARMAC CIVIL ENGINEERING, LTD., Ettingshall, Wolverhampton.

NATIONAL sectional building company REQUIRE London-based REPRESENTATIVE with established contacts in the building trade. Salary, commission, and car provided.—Write Box V.4961. "The Contract Journal."

APPOINTMENTS VACANT

CIVIL ENGINEER REQUIRED. with previous site experience, to train for a head office appointment as an Estimator. The position is permanent, and carries a substantial salary and bonus. Entry into the company's superannuation scheme will be arranged at the end of 12 months' service.—Applicants should write, giving age, qualifications, experience to date, etc., to Chief Estimator, THE MITCHELL CONSTRUCTION CO. LTD., Wharf Works, Peterborough, where applications will be treated in the strictest confidence.

PLANT HIRE MANAGER for Birmingham company required. Applicants, preferably between 35 and 50, to assume responsibility for sales, works, administration. Salary in region of £1,500, according to ability and experience. — Write Box V.4941, "The Contract Journal."

CIVIL ENGINEER

REQUIRED for certificate and planning duties on large overseas civil engineering project. Applicants must have wide experience of large-scale projects with contractors.—Write full particulars of career to:

BOX V.4682, "THE CONTRACT JOURNAL."

FITZPATRICK AND SON (CONTRACTORS), LTD., civil engineering contractors, have the following vacancies: (a) SITE CLERKS for road contracts within London area; (b) SENIOR SHORTHAND-TYPIST to take charge small correspondence section; (c) STORES MANAGER (plant, machinery and vehicles); (d) ASSISTANT BUYER, knowledge building and civil engineering plant and materials preferred; (e) ACCOUNTS CLERK for credit control; (f) PURCHASE INVOICE CHECKER; (g) JUNIOR WAGES CLERK. (h) to (g) head office appointments. Age no obstacle. Non-contributory pension and life assurance scheme. Interviews can be arranged Saturday mornings and evenings.—Apply 455 Old Ford Road, Bow, E.3. Tel: ADV 2991.

PLANT INSPECTOR, to be based in Derby, who will be required to visit sites throughout the country. Must have sound knowledge of all types of mechanical plant, and be able to prepare reports. Transport will be provided. Interviews could be arranged in London or Derby.—Apply in writing, with full details of experience, age, and salary required, to Plant Manager, GEE, WALKER AND SLATER, LTD., Severn Works, Mansfield Road, Derby.

AMBITIOUS REPRESENTATIVE REQUIRED, with comprehensive knowledge of excavators and diesel engines. Preference given to applicant with experience of visiting users of earthmoving equipment in London and Home Counties. — Write Box V.4978, "The Contract Journal."

EXPERIENCED CIVIL ENGINEERING GENERAL FOREMAN

REQUIRED for large contract overseas. — Write particulars to:

BOX V.4771, "THE CONTRACT JOURNAL."

PLANT CLERK REQUIRED. Must be fully experienced. Good salary and car supplied.—Apply to: WITLOR LTD., Ernest Gardens, Thames Road, Chiswick, W.4; or Telephone: CHI 7096.

PLANT HIRE DEPARTMENT—YOUNG MAN REQUIRED, with knowledge of contractors' plant. Details to NEAGRON (CONSTRUCTION), LTD., Abbey House, Victoria Street, London, S.W.1.

AGENT REQUIRED for important motorway contract near London. Good salary and permanent position offered to experienced, qualified man.—Write full details experience to Box V.4994, "The Contract Journal."

ENGINEERS

Preferably qualified, are invited to apply for the position of SENIOR AGENT on a heavy civil engineering contract abroad. Considerable experience with contractors and wide administrative experience are essential. Please give full details of career.

WRITE BOX V.4770, "THE CONTRACT JOURNAL."

CIVIL ENGINEERING SURVEYORS. Senior and Junior, for surveys in various parts of the country. Apply: SITE SURVEY CO., London, S.E.3.

ENGINEER REQUIRED for after sales service of Bulldozer rotary tower cranes. Must be fully conversant with this type of machine, A.C. 3-phase control circuit and remote control. Must have good head for heights and be prepared to travel. Driving licence essential. — Apply in writing only, giving qualifications, remuneration required, and details of past employment, to ABELSON AND CO. (ENGINEERS), LTD., Bulldozer Service Dept., 2297 Coventry Road, Sheldon, Birmingham, 26.

OFFICE MANAGERS, SITE CLERKS and TIMEKEEPERS

Applications are invited for the above positions on long-term contracts with East and West Midlands areas. Must be fully conversant with civil engineering site office procedure. Good prospects of permanent and responsible positions.—Apply, in writing, giving age, experience and remuneration required, to:

BOX V.4969, "THE CONTRACT JOURNAL."

CARPENTERS (Shuttering) and BRICKLAYERS. Civil engineering site at Hinkley Point. Rate and subsistence as W.R.A. incentive scheme. Good hostel. Long hours.—Write: Agent, TAYLOR WOODROW CONSTRUCTION, LTD., Hinkley Point Power Station, near Bridgwater, Somerset.

TURRIF CONSTRUCTION CORPORATION, LTD. REQUIRE a CIVIL ENGINEERING ESTIMATOR to take over the responsibility of tendering for all types of civil engineering contracts. The successful applicant will have a background which includes a technical qualification, four to five years' site experience as Agent or Site Engineer, followed by at least four years' planning and estimating for both light and heavy civil engineering contracts of up to £1m. in value. Operate from Brentford office. Attractive salary; pension bonus scheme; staff restaurant. A permanent and progressive approach to the personal development and experience details to Group Personnel Manager, Turrif Building, Great West Road, Brentford, Middx.

APPOINTMENTS VACANT

CLASSIFIED ADVERTISEMENT

RATES:

Classification	First Four Lines or Less	Each Additional Line
APPOINTMENTS VACANT	12/-	2/6
APPOINTMENTS WANTED	7/6	1/6
WORK REQUIRED, BUSINESS OPPORTUNITIES, BUSINESSES FOR SALE, DIVING, FINANCE, PROFESSIONAL SERVICES, AGENCIES, HORTICULTURAL PROPERTY, SALE BY AUCTION, PLANT AND MISCELLANEOUS	14/-	3/-

BOX NO. 1/- EXTRA.

YOUNG CIVIL ENGINEER REQUIRED for head office post. Applicants should be either recently qualified or intending to qualify, and should have at least two to three years' sound experience. It is intended that the work will eventually cover all aspects of scheme preparation—the drawing office, site investigation, estimating and design—and will appertain mainly to submarine pipelines and allied fields. Apply in writing, stating age and experience, to LAND AND MARINE CONTRACTORS, LTD., Millbrook, Spital Road, Bromborough, Cheshire.

BUYER AND PERSONNEL OFFICER

REQUIRED by civil engineering contractors in Midlands. Applicant will work from head office and must be conversant with buying procedure for work in all areas, and be able to combine the duty of buyer and site clerical staff supervisor. Good prospects, non-contributory pension scheme, and permanent position to the right man.—Apply, in writing, giving age, full experience and remuneration required, to:

BOX V.4970, "THE CONTRACT JOURNAL."

GENERAL FOREMAN REQUIRED for precast and in-situ concrete work. Applicants should be mobile, and experience in precast concrete erection would be an advantage.—Write, stating age, experience, and present salary, in confidence, to Contracts Manager, THE LONDON FERRO-CONCRETE CO., LTD., Maxted Close, Hemel Hempstead, Herts.

ASSISTANT QUANTITY SURVEYOR, age 25 to 28, REQUIRED for one to 12 to 15 months, for harbour construction work in Ghana. Free air passages and furnished accommodation. Paid leave at seven days per month of service.—Apply, giving full particulars of qualifications and references, to: SIR WILLIAM HALCROW AND PARTNERS, Alliance House, Caxton Street, S.W.1.

ROAD SURFACING SUPERVISOR REQUIRED, London area. Experience on all types of machine- and hand-laying essential. Knowledge of foundation work an advantage. Good prospects.—Apply London Roads Dept., Pear Tree Wharf, Horn Lane, Greenwich, S.E.10.

BIRMINGHAM-PRESTON MOTORWAY—SOUTH CHESHIRE SECTION

SIR LINDSAY PARKINSON AND CO., LTD., invite applications for the following positions on the above contract:—

(a) SENIOR SUB-AGENTS—Ref. LVH/15. Applicants for this position should have a minimum of eight years' good all-round experience on heavy construction work with civil engineering contractors and should preferably be qualified engineers. They should already have reached a position of some responsibility on the direct control of site operations on contracts. Salary up to £2,000 per annum, plus car, according to age and experience.

(b) SECTION ENGINEERS—Ref. LVH/7 and (c) ASSISTANT FIELD ENGINEERS—Ref. LVH/8. Applicants should be qualified engineers with sufficient field experience with civil engineering contractors to be familiar with the duties and responsibilities of the positions. Salaries—Section Engineers up to £1,900 per annum inclusive; Assistant Engineers up to £1,550 per annum inclusive, according to age and experience.

(d) MEASUREMENT ENGINEERS—Ref. LVH/10. Men required for these positions should have had recent experience in similar positions with a contractor's organisation. Alternatively, qualified engineers with four to five years' field experience with contractors, who wish to widen their outlook prior to taking positions of greater control on contracts, would receive favourable consideration. Salary up to £1,800 per annum inclusive, according to age and experience. These positions carry prospects of promotion for men showing drive and initiative. The company also operates a superannuation scheme.—Applications, in writing, quoting reference number of positions, and giving full details of age, qualifications, experience, should be addressed to:

The General Manager,
Civil Engineering Department,
SIR LINDSAY PARKINSON AND CO., LTD.,
6 Lambeth Road, St. George's Circus, London, S.E.1.

SALES MANAGER REQUIRED by Massey-Ferguson distributors. Applicants must be thoroughly conversant with sales control and able to run a sales department entirely. Salary £1,100. Car. Excellent prospects for ambitious and progressive person. Write, giving full details, to Box V.4987, "The Contract Journal."

EXPERIENCED SERVICE ENGINEER REQUIRED for agricultural and industrial equipment. London and Home Counties area. Age 20-35 years. Clean driving licence essential. Preferably domiciled London area. Expanding organisation. — Apply Secretary, STEEL FABRICATORS (CARDIFF), LTD., Pengam Road, Cardiff. Tel. 37212.

EXPERIENCED COST CLERK REQUIRED for civil engineering contractors' office. Must be fully conversant with all aspects of civil engineering costing systems. Salary by arrangement. Bonus and pension schemes in operation. Write in first instance to the Secretary, SCOTT HALE (CONTRACTORS), LTD., Globe Road, Hornchurch, Essex.

APPOINTMENTS VACANT

Julius Caesar

started it all in 55 B.C.! The first "Road Programme" lasted for 400 years, but history records no comparable effort for 1,500 years until the current Ministry of Transport programme was introduced. In four years this has given us the Doncaster By-pass Motorway, transformed most of the Great North Road and

PREPARED THE WAY

for an even more exciting era of road construction ahead. In the West Riding the enlarged and extended programme now includes nearly 70 miles of Motorways and a 20-year programme of large Major Improvements providing unique opportunities

FOR ROAD AND BRIDGE ENGINEERS

of all grades up to Scale F to gain exceptional experience of modern design work on an ambitious scale, followed by contract supervision. Our last advertisement brought us many good men but a recent increase in the establishment means more opportunities

TO JOIN

the team which will carry out the largest programme of roadworks since the Romans left England. For full details, write to the County Engineer and Surveyor,

THE WEST RIDING COUNTY COUNCIL

County Hall,
Wakefield, Yorkshire.

APPOINTMENTS VACANT

REPRESENTATIVE, experienced in the sale of contractors' plant, to take over an existing connection in Northants, Beds, and North Herts. Good salary, profits bonus, and expenses. A.55 supplied. Main distributors for Thwaites Dumpers and other popular plant.—Apply **NEALE, WRIGHT AND CO., LTD.**, Cublington, Leamington Spa.

GENERAL FOREMAN WANTED for reinforced concrete reservoirs in Oswestry area. Must have full experience in this kind of work. State age, years of experience, and salary required. First-class opportunity for the right man.—Apply in writing to **BEECHWOOD CONSTRUCTION CO., LTD.**, Rhosmaen, Llandelo, Carmarthenshire.

THE RUSH AND TOMPKINS-PAULING GROUP OF COMPANIES require an additional **SETTING-OUT ENGINEER** for work in the London and Home Counties area. Applicants should be mobile and reliable with instruments. Some experience with contractors is preferred, but a recently qualified graduate would be acceptable.—Write full details to Rush and Tompkins, Ltd., Station Road, Sidcup, Kent.

JUNIOR SITE ENGINEER to commence on sewerage contract in Newmarket area. Permanent and progressive situation for suitable man. With scope for varied and interesting work.—Full details to **F. W. SHANKS, LTD.**, Building and Civil Engineering Contractors, Hunstanton, Norfolk.

APPOINTMENTS VACANT

FIRST-CLASS AGENT REQUIRED for large reinforced concrete superstructure contract in Kent area. A good salary is offered to the right man. Bonus, etc., can be discussed at interview.—Apply in confidence, stating age, experience, and previous employers, to Box 1081, c/o Murray and Phelan, Ltd., Columbia House, Aldwych, W.C.2.

AGENTS REQUIRED by well-known firm of civil engineering contractors, for contracts in Lancs-Cheshire area. Preference given to applicants experienced in main drainage work and able to carry out first-class work at competitive rates.—Write full details of age, experience, qualifications, salary required, etc., to Box V.4950, "The Contract Journal."

BUYER WANTED by medium-sized building and civil engineering contractors with head office situated in Surrey. Must be fully conversant with bills of quantities and able to take-off quantities from drawings.—Write, stating age, experience, and salary required, to Box 1075, c/o Murray and Phelan, Ltd., Columbia House, Aldwych, W.C.2.

ESTIMATOR REQUIRED for building and civil engineering contractors with head office situated in Surrey. Contracts £50,000 to £500,000.—Write, stating age, experience, and salary required, to Box 1074, c/o Murray and Phelan, Ltd., Columbia House, Aldwych, W.C.2.

APPOINTMENTS VACANT

SITE QUANTITY SURVEYOR REQUIRED immediately for sewage works contract near Luton, Beds. With experience in preparing interim valuations and site measurements on civil engineering works. Pension scheme in operation. Progressive staff appointment. Apply in writing, stating age, experience, previous employers, and salary required, to **J. L. EVE CONSTRUCTION CO., LTD.**, 17 Hillside, Ridgway, Wimbledon, S.W.19.

AGENT/ENGINEER REQUIRED for medium-sized but expanding company near S.E. Coast, to control group of small to medium contracts. Good opportunity for keen cost-conscious man. Car provided.—Apply Contracts Manager, **THE WINGHAM ENGINEERING CO., LTD.**, Wingham, Canterbury, Kent.

DESIGNER

R.C. Designer preferably with knowledge of Precast Concrete required for work on Portal Frame Buildings and Flooring Systems together with all in-situ works. This appointment carries a good salary, with Staff Pension and many other benefits. Apply to:

**The Senior Structural Engineer,
MARLEY CONCRETE LTD.,
Peasmarsh, Guildford**

TECHNICAL
SALES MANAGER

INTERNAL PIPE-COATING

£2,000

A Company with headquarters in London and specialising in corrosion problems with pipelines is looking for a well-qualified Sales Engineer to take charge of the sales operation arising from a very successful new system.

A man of between 30 and 40 is sought. He should have a good background knowledge of the industries making use of pipelines and be familiar with the technical aspects of pipeline construction. It could be that his experience to date has been confined to the external coating of pipes, but in that case he should nevertheless understand the problems of corrosion and friction which can arise inside a pipe. A good deal of travelling is involved, both in the United Kingdom and overseas, and the job obviously demands both an enthusiast and a robust constitution. A basic salary of about £2,000 is envisaged, together with appropriate allowance. There are good prospects for the right man.

Applicants are invited to write in confidence, giving brief personal particulars, to:

**R. E. BROWN (Ref. B/TSS/32),
P.E. Appointments Division,
12 Grosvenor Place,
London, S.W.1.**

CALVERLEY

Contractors

Leicester

Experienced Site Staff required immediately

AGENT — GENERAL FOREMEN — SITE SURVEYOR
for 18 month contract in
LEICESTER

Good conditions, future prospects, Salary by arrangement

Apply: **Evington Valley Road, Leicester.**Tel: **39331****MSL**have been retained to advise
on this appointment.

CONTRACTS MANAGER

for a company designing and mass producing a variety of homes at competitive prices for the middle class market. He will be expected to organize and inspire a force of over 250 on several sites to produce well-built detached private houses to a close budget in the shortest possible time.

Candidates must have experience at contracts manager level in building mass produced houses and have had direct control of labour on dispersed sites. Preferred age 42 to 50 with experience of pre-war speculative building, or under 42 with B.Sc. (Building), A.I.O.B., A.I.Q.S., or at least H.N.C.

Initial salary at least £2,000 plus programme bonus, car and house to rent. Removal expense will be paid. Please send brief details in confidence quoting reference YA 9126 to D. C. Duncan.

In no circumstances will a candidate's identity be disclosed to our client unless he gives permission after a confidential interview at which he will be given full details of the appointment.

MANAGEMENT SELECTION LIMITED

17 Stratton Street, London, W.1

**BALFOUR
BEATTY**

CIVIL ENGINEERS

Applications are invited from qualified engineers to join Company at present carrying out design and project investigation work on a variety of large and interesting contracts in the U.K. and overseas.

(a) Age 33 upwards, with A.M.I.C.E. and capable of leading design team in the solution of heavy civil engineering problems.

(b) Age 28-32, preferably A.M.I.C.E., with experience in one or more of the following fields:

- (i) Rock fill dam design.
- (ii) Hydro - electric power station design, layout and co-ordination.
- (iii) General hydro work.
- (iv) Soil mechanics.

(c) Age 22-28, and possessing a good engineering degree, to act as assistants on the administration of project planning initially.

Attractive salaries will be offered in each grade and the prospects are good. The appointments are pensionable. Five-day week. Luncheon Club facilities.

Write details age, training and experience.
(I.A.M./315)

BALFOUR, BEATTY & CO. LIMITED,
BOW BELLS HOUSE, BREAD STREET, LONDON, E.C.4

APPOINTMENTS VACANT

BUILDING and civil engineering contractors in Birmingham area **REQUIRE COMPANY SECRETARY/ACCOUNTANT** to supervise and take full control of medium-sized group of companies. Comm. salary £1,250.—Write, giving full details, to Box V.4958, "The Contract Journal."

ENGINEER/AGENT REQUIRED immediately for tunnel contract in London area. Only applicants experienced in this type of work, and the necessary responsibility, need apply. This appointment carries a good salary.—Write Box V.4960, "The Contract Journal."

PLANT OFFICE MANAGER REQUIRED. Experienced in bookkeeping and all records. Excellent prospects. Work mainly in London and Home Counties. Write details of experience and salary required to Box V.4959, "The Contract Journal."

REPRESENTATIVE WANTED by progressive London plant hire company. Must be able to promote hire and sales. Car provided.—Write, stating age, experience, and salary required, to Box V.4973, "The Contract Journal."

CIVIL ENGINEERS

Preferably qualified. **REQUIRED** by civil engineering contractors engaged in the construction of impounding reservoirs, sea defence works, large diameter pipe lines, trunk sewers, tunnels and other works of heavy construction for site works on contracts mainly in the Midlands and North of England. Applicants should have had some previous site experience and be of necessarily mobile. Appointments carry attractive salaries and offer considerable scope for advancement in an expanding organisation.—Apply, giving details of age, qualifications and experience, to:

LEHANE, MACKENZIE AND SHAND, LTD.,
Matlock, Derbyshire.

TECHNICAL PLANNING ASSISTANT WANTED for building and civil engineering contractors in North West. Duties will involve taking-off, requisitioning and progressing of bulk materials and sub-contractors. Applicants should be fully conversant with building construction and should be experienced in planning in order to assist in formulating realistic and workable contract programmes. The position provides good prospects for the right man in a new and expanding company. Bonus and pension schemes in operation.—Write, stating details of age, education, qualifications and experience, to Box V.4971, "The Contract Journal."

CIVIL ENGINEER—CONTRACT IN YORKSHIRE

CIVIL ENGINEER REQUIRED by FOUNDATION ENGINEERING, LTD. to work on a contract in the North of England (two years' duration). Applications are invited from Graduate Engineers, preferably aged 27-30, who have had at least three years' previous site experience. Practical knowledge of grouting methods an advantage. This is a responsible post in control of the work undertaken, which offers excellent prospects for a progressive career in an expanding organisation. Please phone or write to:

Personnel Manager,
RICHARD COSTAIN, LTD.,
111 Westminster Bridge Road, London, S.E.1.
Telephone: WATERLOO 4977.

HEAVY ENGINEERS REQUIRE SHOP MANAGER for fabrication department. With wide experience structural steel and tankwork, and welding in all grades. House available.—**FRED. WATKINS (ENGINEERING), LTD.,** Coleford, Glos.

SITE CLERK REQUIRED for interesting contract work. Must be fully conversant with W.R.A., drawings accounts and costing procedure. Permanency and promotion for right man.—Write, giving full details, to Box V.4969, "The Contract Journal."

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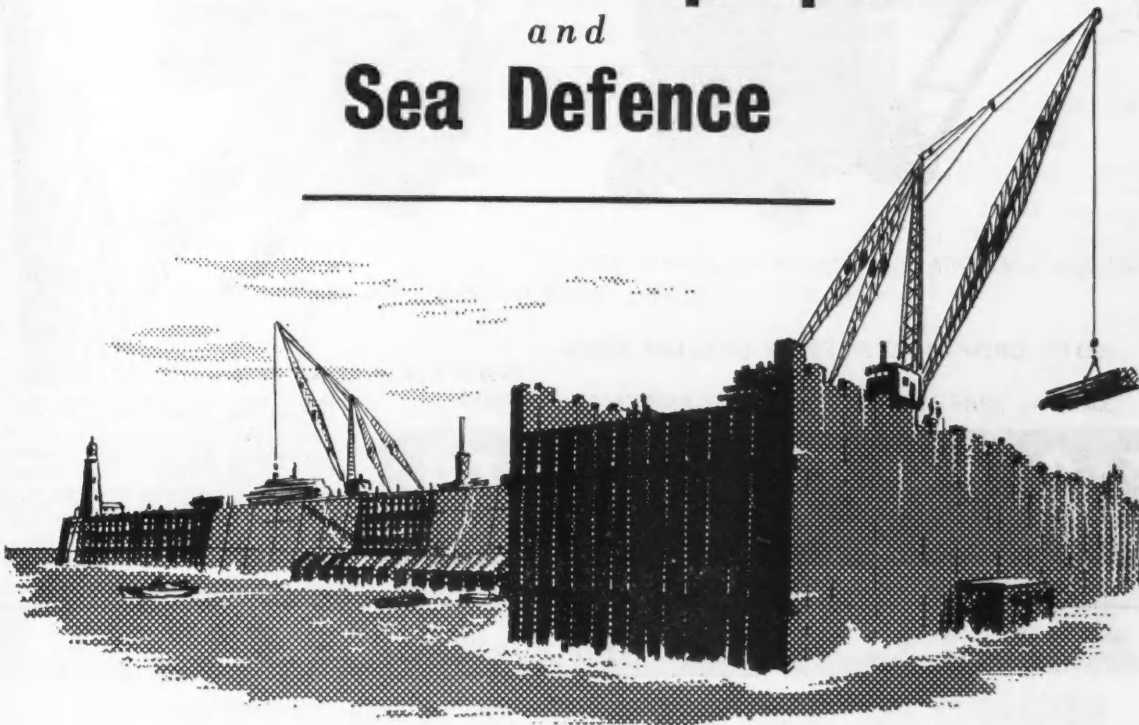
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Tyne.
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Birmingham.
W. R. SELWOOD, Chandler's Ford, Hants.

INDEX TO ADVERTISERS

A	Page	F	Page	N	Page
A.B.C.D. (Raynes Park), Ltd.	1768	Flextol Engineering Co., Ltd.	1761	Neal, R. H., & Co., Ltd.	vi
Abelson & Co. (Engineers), Ltd.	1814	Fodens, Ltd.	xvi	Neogene Products	vi
Acworth Plant Hire, Ltd.	1880	Foster, Arthur, (Constructional Engineers), Ltd.	1768	Nielsen, H., & Son, Maskinfabrik A/S	1771
A.E.C., Ltd.	1754, 1812	G		Northide, Ltd.	1876
Allam, E. P., & Co., Ltd.	1758	Gaylord, Edwards & Co., Ltd.	1874	Northmix Ready Concrete, Ltd.	xvii
Allam Machinery Hire, Ltd.	1758	G.K.N. Reinforcements, Ltd.	1881		
Allen, John, & Ford (Oxford), Ltd.	1852	Glover Bros. (Mossley), Ltd.	1879		
Armstrong-Whitworth (Metal Industries), Ltd.	xviii	Goodyear Tyre & Rubber Co., Ltd.	1853		
Ash, R., & Son, Ltd.	1766, 1768, 1858	Government of Canada	1757		
Audax	1791	Greenham Equipments, Ltd.	1771, 1799		
Austin Motor Co., Ltd.	1791	Greenham Group	1771, 1799		
Aveling-Barford, Ltd.	xviii	H			
B		Hardun & Sons, Ltd.	viii		
Bamford, J. C., (Excavators), Ltd.	i, ii, iii, iv	Hood, R., Haggie & Son, Ltd.	1882		
Batley, Ernest, Ltd.	1766	Hyster, N. V.	1798		
Belcher (Radio Services), Ltd.	1756	I			
Bigwood (Bros.), Ltd.	1767	Industrial Power Units, Ltd.	1872		
Blackwood Hodge	Cover iv	Industrial Pumps, Ltd.	xx		
Blaw Knox, Ltd.	xviii	Industrial Safety	1768		
Bowmaker (Plant), Ltd.	xii	International Harvester Co. of Great Britain,			
Braham, Patterson & Benham, Ltd.	1764	Ltd.	x, xi		
Branch, Jack, (London), Ltd.	1766	International Translators, Ltd.	1770		
Bray Construction Equipment, Ltd.	vi, vii	J			
Bristol Metal Components, Ltd.	1884	Johnson, C. H., (Machinery), Ltd.	1793		
British Deutz, Ltd.	xvii	Joy-Sullivan, Ltd.	Cover iii		
British General Insurance Co., Ltd.	1880	K			
British Jeffrey-Diamond, Ltd.	xvii	Kebrik Plant, Ltd.	1770		
British Steel Piling Co., Ltd.	1760	Kwikform, Ltd.	xlii		
Broom & Wade, Ltd.	1769	L			
Buckton, Ltd.	1792	Leach, Hubert C., Ltd.	1872		
Building Exhibition	1756	Lead Wool Co., Ltd.	1792		
Butterworth, Stanley, Ltd.	1767	Lemard Machinery, Ltd.	1784		
C		Leyland Motors, Ltd.	1856		
C. & R. Constructions, Ltd.	1858	Liner Concrete Machinery Co., Ltd.	1870, 1876		
Cardox (Great Britain), Ltd.	1870	Lumley (Plant), Ltd.	1882		
Carttrunk, Ltd.	1758	M			
C.E.T. (Equipment), Ltd.	1785	Mackay Industrial Equipment, Ltd.	Cover i		
Chamberlain Plant, Ltd.	1766	M. & J. Engineers, Ltd.	1767		
Clifton, I., & Sons, Ltd.	xvii	Marshall Sons & Co., Ltd.	xxi		
Cohen, George, Sons & Co., Ltd.	1813, 1857	Masonite, Ltd.	1871		
Constructors John Brown, Ltd.	1761	Matbro, Ltd.	1755		
Contractors' Services, Ltd.	1794	M.E. Engineering, Ltd.	1768		
Corrie, J. B., (Flexstell), Ltd.	1786	Mercantile Credit Co., Ltd.	1772		
Cox & Danks, Ltd.	1790	Merton Engineering Co., Ltd.	xxiv		
Cox, H., & Sons (Plant Hire), Ltd.	1878	Michigan (Great Britain), Ltd.	1770		
Cripps, R., & Co., Ltd.	1814	Mitchell, F., (Nottm.), Ltd.	1770		
C.T. (London), Ltd.	1765	Mobile Lifting Services	1785		
Curtis, J., & Sons, Ltd.	1874	Moore's Plant, Ltd.	1783		
D		Moseley, David, & Sons, Ltd.	1883		
Davidson's Paper Sales, Ltd.	1789	N			
Davies, R. A., (Midlands), Ltd.	1796	National Federation of Demolition			
Denny Mott & Dickson, Ltd.	1811	Contractors	1762, 1763		
Diving Specialists, Ltd.	1766	Neagron (Construction), Ltd.	1770		
Doe, Ernest, & Sons, Ltd.	xv				
E					
Eddison Plant, Ltd.	xviii, xix				
Expandite, Ltd.	1759				

Advertisements received too late for Classification

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Plans and Conditions of Contract may be seen during usual office hours, and Specifications and Bills of Quantities obtained from the Borough Engineer, 38 Grosvenor Place, Margate.

Tenders, in plain sealed envelopes endorsed as directed, must be delivered to the undersigned not later than 12 o'clock Noon on **SATURDAY, 4th November, 1961.**
The Council do not bind themselves to accept the lowest or any Tender.

T. F. SIDNELL,
Town Clerk.

Town Clerk's Office,
40 Grosvenor Place,
Margate.

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S. F. JAGO,
Clerk of the Council.

Council Offices,
16 St. Albans Road,
Hatfield,
Herts.

TECHNICAL REPRESENTATIVE REQUIRED, aged 25-35, with wide experience of civil engineering work—Please apply in first instance by letter, giving details of education and professional experience, and submit the names of two referees, to **THE CONSOLIDATED PNEUMATIC TOOL CO., LTD., 471 Chester Road, Manchester, 16.**

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Tenders must be delivered in the envelope provided, to the **CLERK OF THE COUNTY COUNCIL,** County Hall, Hertford, not later than the 8th of November, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

RUGBY RURAL DISTRICT COUNCIL.

ROAD AND SEWER WORKS.

STRETTON-ON-DUNSMORE HOUSING SITE.

The District Council invite **TENDERS** for the **CONSTRUCTION OF ROAD AND SEWER WORKS** at the Council's Housing Site at **SCHOOL LANE, Stretton-on-Dunsmore.**

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Tenders should be submitted in a plain sealed envelope endorsed "Tender for Road and Sewer Works—Stretton-on-Dunsmore," so as to reach the undersigned not later than 12 Noon on **FRIDAY, 17th November, 1961.**

The successful contractor will be required to enter into a Contract and Bond for the due performance and fulfilment of the Contract.

The Council do not bind themselves to accept the lowest or any Tender.

Council Offices,
24 Warwick Street,
Rugby.
10th October, 1961.

H. A. WILDE,
Clerk of the Council.

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ISLE OF ELY COUNTY COUNCIL.

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R. F. G. THURLOW,
Clerk of the County Council.

County Hall,
March,
Cambs.

9th October, 1961.

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K. S. HARVEY,
Clerk of the Council.

Municipal Buildings,
London Road,
Camberley, Surrey.
9th October, 1961.

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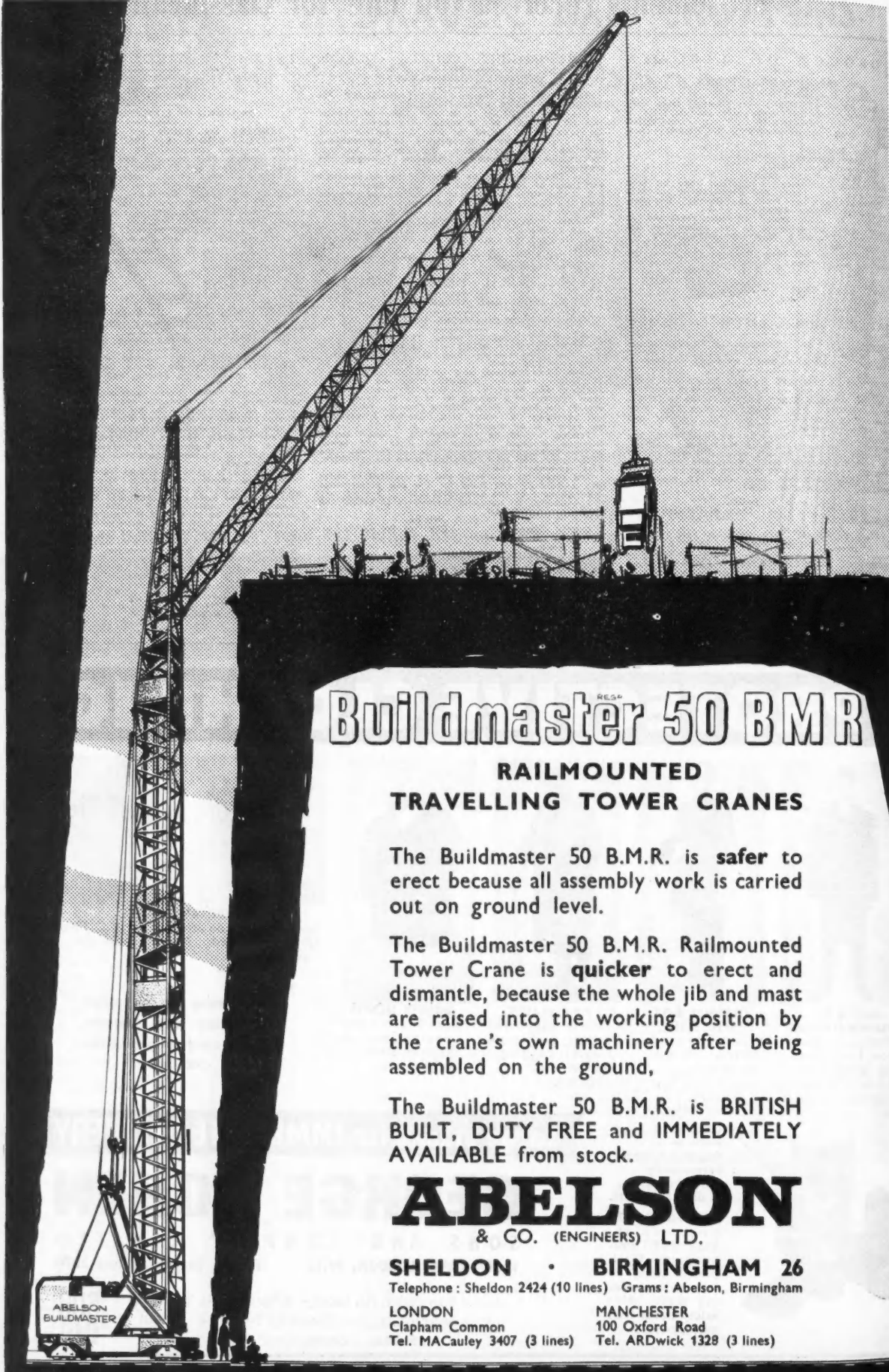
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PRINCIPAL CONTENTS

	PAGE
Final Report of London Street Lighting Committee	1816
Planning for Traffic Convention: Minister Says Statutory Procedures Must be Accepted	1817
History of Foundation Engineering: Structural Engineers' Presidential Address	1819
£24m. Hospital Contract	1820
Late Construction News	1820
A Lawyer Considers	1821
Urban Road Construction in Germany	1822
Road Accident Figures Analysed ...	1826
film. Development at National Physical Laboratory, Teddington	1827
Specialist Planning Discussed at Building Estimators' London Meeting	1829
Men and Movements	1830
Causes of Accidents on Construction Sites	1831
Talking of Safety, by "Dragee"	1832
"Saw Tooth" Multi-storey Parking Garage for Maidstone	1833
For the Diary	1834
Correspondence: The Package Deal	1835
Trade and Company News	1836
CURRENT CONSTRUCTIONAL ACTIVITIES:	
Projects	1841
Contracts	1842
Awards	1847

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"SIGNPOSTS"—FOR THE CONSTRUCTION INDUSTRY

LAST week's Labour Party Conference was a much more encouraging affair for the participants than the one a year earlier. As the Conservative administration runs into economic troubles the Labour Party has found greater unity and strength. Its leaders sniff the scent of victory in the air and the Gallup Polls confirm their present judgment. Prophecies in politics are always rash and frequently wrong but even Mr. Gaitskell has spoken of the tremendous opportunities to be grasped.

Mr. Gaitskell has stated that he does not envisage a return to general building controls under a Labour Government. Existing planning machinery could be used to achieve what was wanted. Greater controls over the construction industry in some form or another is just one facet of the effects of a possible return of the Labour administration. It is as well to examine all of them. Happily, demands for nationalisation of the industry have been resisted largely, it seems, on the grounds that the party would have enough on its plate in dealing with steel, road haulage, research and industries dependant on state subsidies such as aircraft or state purchases such as pharmaceuticals.

Municipalisation of housing has been squashed for financial reasons and there has been complete silence on direct labour. But the Party has been almost as steamed up about land prices as about the Bomb. So, a modified scheme for public ownership of land has been approved under which a Land Commission would purchase the freehold of land where development or redevelopment was to take place. The conference approved a resolution submitted by the Amalgamated Union of Building Trade Workers calling upon the Government "to undertake an inquiry into the broad question of land prices, with special reference to the problems facing local authorities and public utilities which provide a social service to the community".

Local authority house-building would be encouraged and although, as Mr. Gaitskell said, there would be no controls the timing of major building projects would be adjusted locally to make sure that council house-building was not retarded by shortages of labour. Financial inducements would be given to local authorities in the form of subsidies and low interest rates and would-be owner-occupiers would be provided with low interest loans—a limit of 1½ per cent. was suggested in one resolution to the Conference. The Rent Act would be repealed and the leasehold law modified to enable long leaseholders to buy their own homes.

Road building would be given a priority over other claims in order to solve the transport problem and the other forms of public investment such as health and education would be increased.

The plan for education goes much wider than the issue of the public schools and the ending of what "Signposts for the Sixties" calls "educational privilege". There would be a national scheme for apprenticeship training to be worked out by the trade unions and the employers but with much greater help in providing financial facilities. This is to eliminate what is called the narrow view of some private firms who, obeying "the traditional laws of capitalism", do not train because, once trained, their men are snapped up by other firms.

It goes without saying that there would be more planning. A National Industrial Planning Board would be set up to ensure speedy and purposive industrial investment (assuming, presumably it did not interfere with council house-building). There would be greater direction of industry to areas where labour was available and where new work was needed. Finance and industry would have a major shake-up. Evidently, too many directors of major companies come from Eton.

On the industrial front steps would be taken to improve redundancy arrangements. What is now the exception should become the rule says "Signposts" and arrangements should provide for adequate notice and severance pay, to give the employee time to look around for another job without a sudden and disastrous loss of earnings.

The Labour Party if returned to power would have an enormous bill to foot in order to implement its programme. How will it be done? After taking some massive swipes at private enterprise "Signposts for the Sixties" ends by proposing an increase in profits tax.

FINAL REPORT OF LONDON STREET LIGHTING COMMITTEE

Consultation Between Authorities Recommended

THERE should be no abrupt changes in the level of street lighting, measured in terms of lumen value, but uniformity of lighting level is more important than uniformity of colour.

This is among the conclusions drawn in the recently published Final Report of the Consultative Committee on the Lighting of Traffic Routes within the London Conurbation.

The Committee was formed at the suggestion of the Ministry of Transport and Civil Aviation to consider the lighting of main traffic routes within the Greater London area and to make recommendations with a view to securing greater uniformity and continuity. It consists of representatives of local authorities appointed on an area basis.

Some of its recommendations are: There should be consultation between neighbouring authorities whenever a new installation is to be provided on a route which crosses into or runs alongside another local authority area.

Research should be undertaken with a view to producing a more satisfactory basis than lumen values for measuring the effectiveness of lighting in terms of visibility to road users.

No traffic route should have less than 5,000 lumens per 100 lin. ft. of road.

Heavy Traffic Routes

Heavy traffic routes should have a minimum illumination of 7,000 lumens per 100 lin. ft., and local authorities should aim at having them lit to a target figure of 10,000 lumens within three years.

Medium traffic routes should have a minimum illumination of 5,000 lumens per 100 lin. ft., and local authorities should aim at having them lit to a target figure of 7,000 lumens within three years.

The minimum mounting height of light sources on traffic routes should be 25ft. and there are advantages in a greater mounting height so long as it does not unduly affect surrounding amenities.

There should be uniformity of lighting up and extinguishing times.

All traffic routes in Greater London

should be continuously lit throughout the night.

Special lighting, separately wired and controlled, should be installed for use during times of fog or unusual darkness at points (especially important road junctions) where it is particularly necessary.

Technical investigations should continue to be made into the possibilities of simultaneous switching on and off of street lighting over the whole Greater London area.

Central mounting of street lighting should not be used except in exceptional circumstances.

There should be an easy gradation of lighting for approximately 50yd. of the side road adjoining a traffic route.

Dark rough road surfaces are more difficult to light than fine textured surfaces, and for the lighting of the former the use of increased mounting heights and medium-angle beam (or cut-off) lanterns with lamps of higher output have distinct advantages.

DIPLOMA IN PUBLIC HEALTH ENGINEERING

The Institution of Public Health Engineers have introduced a new Diploma in public health engineering. By mutual agreement, arrangements have been made for candidates for this award to qualify academically through the Examinations of the Institution of Civil Engineers.

The Institution of Civil Engineers will sponsor public health candidates in the Engineering Institution Part I Examination, which is administered by nine professional engineering bodies.

Candidates for the new Diploma will be required to pass Group A or Part II of the Institution of Civil Engineers Examination which includes specialist public health subjects.

To obtain the Diploma candidates will also have to pass the Professional Interview of the Institution of Public Health Engineers which has been modelled on that of the Institution of Civil Engineers.

D.S.I.R. ROAD TEAM HELPS U.S.A.

A BRITISH research team from the D.S.I.R.'s Road Research Laboratory has been asked by U.S.A. authorities to make skidding resistance studies on an American runway.

The party, which left London by air last week went at the request of the National Aeronautics and Space Administration and the Federal Aviation Agency, U.S.A., who are financing the project. With their specially designed high speed trailer towed by a Jaguar XK-150 they will make high speed tests on an airfield at Atlantic City, New Jersey.

The Road Research Laboratory is the only organisation in the world to have developed this particular technique of testing skidding resistance at high speed.

The Americans are undertaking a large-scale investigation of the distances required by aircraft to take-off and land on wet or slush-covered runways. As a part of these tests they need to know the skidding resistance of the runway surfaces that they are using, and the only machine capable of making measurements at speeds of over 100 m.p.h. is the small trailer which was developed by scientists and engineers of the Road Research Laboratory to study the problem of friction on wet runway surfaces in Great Britain. Most of the runways in Great Britain have been measured with this machine.

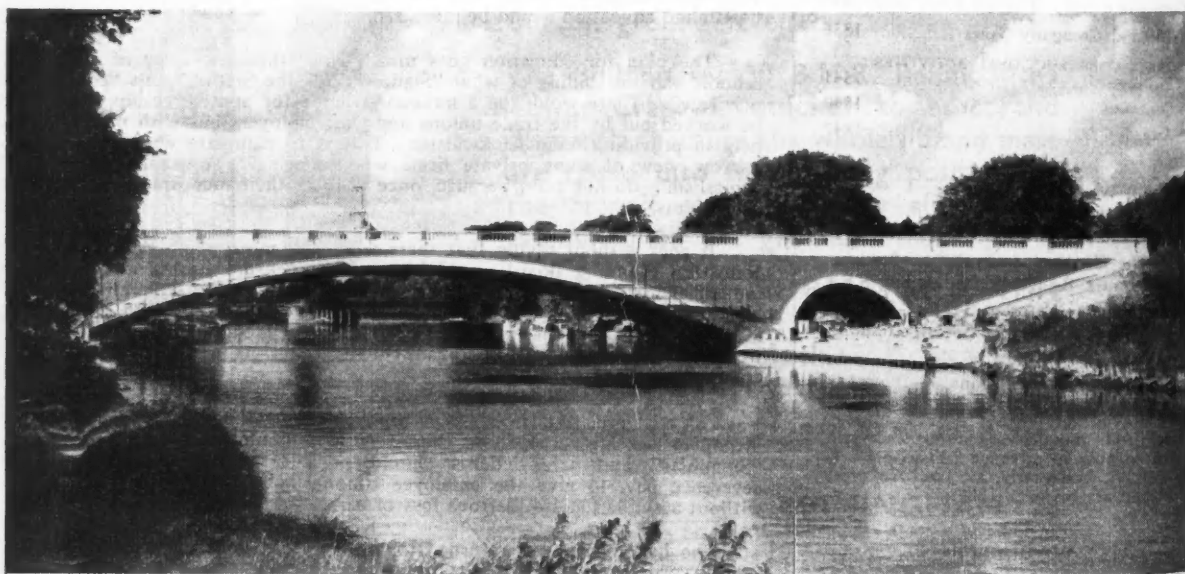
At the Laboratory's new research track at Crowthorne in Berkshire the machine is used to test the skidding resistance of various types of road surface at speeds of up to 100 m.p.h. It has also been used on the M.1 at speeds of about 80 m.p.h.

The three-man team is led by Mr. J. Masters, who is in charge of the field trials. He is accompanied by Mr. K. H. F. Cardew, who was largely responsible for developing the apparatus and Mr. J. K. Meads, an expert driver, who will drive the Jaguar during testing.

FOUNDATION STONE LAID AT £3½M. AIR TERMINAL

The foundation stone of B.E.A.'s new £3½m. London air terminal was laid last week by the airline's chairman, Lord Douglas of Kirtleside.

The new terminal is being built by Holland & Hannen and Cubitts (Great Britain), Ltd., next to the existing West London air terminal.



Bell Weir Bridge, which will carry the Staines By-pass over the Thames, is now nearing completion. The bridge is 414ft. long, with a main span of 174ft. over the river. Initially it will have two 24ft. carriageways, but has been designed to take two 36ft. carriageways, when it becomes part of the North Orbital Road. The form and elevation designed by the late Sir Edwin Lutyens have been retained. Consulting engineers are C. W. Glover and Partners in association with George Stewart, F.R.I.B.A. The contractors are W. and C. French, Ltd.

"PLANNING FOR TRAFFIC"

Minister Says Statutory Procedures Must Be Accepted

OPENING the convention on "Planning for Traffic" arranged by the Institution of Municipal Engineers which was held at the Central Hall, Westminster, last week, Mr. JOHN HAY, M.P., Joint Parliamentary Secretary, Ministry of Transport, said many were critical of the time taken between the original conception of a road project and its eventual execution. But the statutory procedures which had been laid down by Parliament were specifically designed to safeguard the interests of the individual. Irritating though they might be when one was eager to get on with a project they must be accepted as the necessary concomitants of planning in our crowded democratic island.

It was all very well to say that the needs of traffic must have priority and that we should therefore bulldoze our way through private rights and interests, but when one realised that in this country practically every yard of land was under some occupation and was put to some use one also understood that neither the Government nor local authorities could trample roughshod over the interests of the individual.

Referring to the way planning for road traffic had developed within the Ministry of Transport, Mr. Hay said: "One thing I think you can be sure of—we are not lacking in advice on what is wrong with the road and traffic systems of the country, nor on what needs to be done to put them to rights."

"As a result of this advice and in the context within which we have to work, we have evolved a policy which takes us as far ahead into the future as it is worthwhile to look, and in various stages of firmness and certitude which we believe it prudent to adopt."

Importance of Traffic Engineering

"Firstly we have the short-term measures involving traffic engineering techniques. These can be used to bring quick relief to congested areas, especially inside our towns. Traffic engineers help us, in fact, to make the best possible use of our existing roads and streets. Their measures have these advantages—that they can be introduced fairly quickly, and at a relatively low cost."

"We attach the greatest importance to traffic engineering methods as a source of immediate improvement of traffic conditions. The need for traffic engineers is, I know, fully appreciated by many local authorities, but there is certainly scope for more use to be made of their services in some areas. We should like to see a rapid increase in the numbers of traffic engineers and traffic engineering technicians being trained and employed in this country, and I do most earnestly beg local authorities to consider how far they can go in this and to study the benefits already being obtained up and down the country by these methods."

"Here in London the Minister has set up the London Traffic Management Unit to apply traffic engineering techniques to problems inside the London Traffic Area. At present the Unit's engineers are concentrating on the central network of streets where the need for immediate relief is greatest. The Tottenham Court Road/Gower Street one-way scheme and the A.4. peak-hour clearway are examples of what can be done. Several other schemes (involving one-way working, peak hour clearways, and the prohibition of right-hand turns) are being prepared."

"The regulation of parking is also important. Indiscriminate street parking is one of the main causes of traffic congestion, and the parking problem is part and parcel of the overall traffic problem. And, of course, control of street parking is an important feature of most of the short-

term measures for improving traffic conditions which we are introducing in London."

"Second, we have the programmes of new construction and major improvement which make up the great bulk of the £540m. programme to which I have already referred. This has enabled us to lay plans for a further extension of the motorway network, and for many schemes to improve trunk roads throughout the country. These are the schemes which take a long time to plan and bring to fruition, but the five-year programme—to be extended year by year—enables us to go ahead with confidence in preparing schemes and planning for their introduction."

"It has enabled us also to allocate £150m. in grants towards classified road schemes over the next five years, and to establish the three-year rolling programme which I believe has assisted many of you substantially in the forward planning and phasing of your work. In making up all these programmes we are constantly trying to introduce as much certainty as we can while leaving ourselves that flexibility which is so necessary because of the many slips which can take place in the various stages between the original conception of a project and its eventual execution."

Long Range Planning

"Finally there is long range planning. Here we have the preparation of schemes which have had to fall outside the firm programmes, but which can be made ready for commitment at a later stage. But there is also the wider and less immediately practical aspect of looking at the effects our ideas and plans will have on this land of ours. We have two groups studying the problems which this involves—the first dealing with the next ten years or so, the other group, under Mr. C. D. Buchanan, is studying the sort of replanning of our cities and towns which the long term growth of motor traffic will necessitate."

"For the problem posed by the motor vehicle in urban areas is not simply one of improving the flow of traffic and providing parking spaces. What we are faced with is the need to exploit a remarkably ingenious invention but at the same time to retain or create urban environments that are worthy of the name."

"We are an urban nation; three-quarters of our whole population lives in towns; and the importance of decent, stimulating surroundings in the towns can hardly be exaggerated. Up to date the motor vehicle has been seriously destructive of amenities. In spite of all its convenience, it has very little to its credit on the environmental side."

"It is not difficult to list the qualities that should be sought—safety for everyone from traffic dangers; freedom for pedestrians to move about and enjoy the simple pleasures that mean so much in urban life; freedom for all (including people in buildings) from the noise and stink and vibration of the internal combustion engine; and architectural coherence, with buildings that are worth looking at and are uncluttered by motor vehicles. But to secure these qualities (or to preserve them, which is what is involved in some of our historic towns) and simultaneously to provide for the unimpeded access of motor vehicles to every nook and corner (which is what people are demanding), is an extremely difficult problem."

Municipals' Responsibility

"Municipal engineers are bound to be closely involved in these long-term developments, and will have a great responsibility to the public to see these problems with a breadth of vision which realises that their solution means close co-operation with other professions, and that efficient movement of vehicles is only one of the things that has to be secured for civilised urban life."

Mr. J. H. MELVILLE RICHARDS, M.I.C.E., president of the Institution, after thanking Mr. Hay for his address, said that although much had been done in the construction of new motorways, more indeed than we had expected a few years ago, there was more to do to provide a satisfactory modern network; also a great number of major road improvements. The problem appeared to be intractable. But in a country such as ours, so much dependent on the production and export of manufactured products, it was essential to have a first-class road system to maintain and improve our standard of living; we needed it to keep down our transport costs and thus aid the country to face increasing competition in markets overseas. In the national interest our new road system must be built as quickly as possible.

LONDON'S TRAFFIC PROBLEM

In his Paper on this subject Mr. J. RAWLINSON, chief engineer of London County Council said: No one would deny that the problem of London's traffic is a vast and intractable one. Yet it is of vital and immediate importance to the economy of the country as a whole that this problem be tackled and overcome."

It is estimated that in 1960 some 1,250,000 persons were travelling into the central area each day. Of this total, 9 per cent. were using private transport, 35 per cent. surface rail services, 39 per cent. underground railway services and 17 per cent. bus services. Compared with 1951, the use of all forms of transport has increased with the exception of the bus services."

Following the decline during the war years, the pre-war level of London road traffic was reached by about 1953, and is increasing at an average rate of 4½ per cent. a year. This compares with the national average of about 8 per cent. It is thought that the difference is due to the congestion at peak periods, the difficulty of parking, and the extensive public transport system."

The traffic consists approximately of 58 per cent. private cars, taxis and motor cycles, 27 per cent. commercial vehicles, 7½ per cent. buses, coaches, etc., and 7½ per cent. pedal cycles."

The number of vehicles which pass through five of the busiest intersections per 12-hour day are: Hyde Park Corner—120,180; Marble Arch—80,781; Trafalgar Square—77,289; Parliament Square—68,610; Kennington Triangle—64,496."

Parking of cars on the highway is by far the greatest single factor of many which are responsible for continuing congestion. There are many miles of road in London with a carriageway width of over 40ft., but solely because of the parked vehicle these provide for only one moving lane of traffic in each direction."

The parking problem will not be solved satisfactorily until it is attached to and accepted as part of the overall traffic problem."

Urban Motorways

The present development plan for London does not show a system of motorways, and there are many difficulties in the way of including them at present. Their cost in the central area might well reach a figure of £14m. a mile or more."

The L.C.C. is already undertaking road improvement schemes to the value of about £6m. a year, and this is to be increased to £10m. a year. In preparation or under construction are schemes to the value of over £90m. The problem which has had to be solved is how to spend the limited amount of money available to the best advantage."

It is not suggested that motorways have no place in the future plan. On the contrary, they are necessary. But it would be wise to assess the part which each form

of transport must play in the ultimate solution of our traffic problems before committing ourselves irrevocably to such improvements. It will be difficult for local authorities to construct many of these thoroughfares unless the Government is prepared to shoulder a much bigger proportion of the cost.

The short-term policy of constructing a large number of improvements at different places to relieve serious traffic congestion must continue. The long-term policy, which should overlap the short-term one as soon as possible, must include motorways.

On the face of it, a £10m. a year programme is a smallish figure. There are sufficient qualified local authority engineers and consulting engineers to cope with a much larger programme provided—and this is the crux of the problem—that land and property is acquired much more quickly.

It may well be that in a democratic country any speeding up of the procedure is impossible on the grounds that it would cause undue hardship. But it is evident that if the Government is determined to put into operation quickly urgent improvements in urban areas steps will have to be taken to expedite the present long-drawn-out procedure.

This country will cease to exist as a great nation when we are no longer able to support ourselves by trading in world markets. An efficient and integrated transport system is one of the vital necessities for our economic survival.

Discussion

MR. WILFRED ANDREWS, chairman, Royal Automobile Club, proposing the meeting's thanks to Mr. Rawlinson for his interesting and enlightening Paper, said the integrated plan he had called for was essential; the consideration of the problem by a powerful committee, as suggested, was likely to be very beneficial.

There was something peculiar about the London traffic dilemma. The problem was one which had beset most important cities in the world; but the peculiar feature in this country was the unwieldy and complicated administrative approach we had in dealing with it. We had the engineers, consultants, architects and so on, all working together on plans which would solve our problem for a good many years to come. They awaited only the authority to proceed, and the wherewithal with which to carry out their plans. They were unequalled in the world in respect of knowledge and capabilities.

Was it beyond the bounds of possibility that we could have a top scale inquiry into the various processes we had to go through before we could really get down to work, to determine whether they could be streamlined or shortened in any way? He did not mean appointing a departmental committee, but a committee of qualified men, with legal and other experience. He urged that their inquiries should be made in the full light of day, and believed that some reduction of the time devoted to these processes would be brought about thereby.

Perhaps Mr. Hay was quite right when he had said that we must wait for Parliament, in its wisdom. "Wisdom" was the operative word! There was appreciation of the very much improved circumstances brought about in the past few years, and we had had a very great deal of improvement. He distinguished the word "appreciation" from "dissatisfaction." He hoped that Parliament would display some wisdom in these matters.

How Time is Lost

As an example of how time could be lost, Mr. Andrews said that in 1948 the London County Council and the Ministry of Transport had prepared plans for the "A" ring road for London, but the Government of the day could not see their way to approve it and to make the necessary money available. At that time there were 3,750,000 vehicles on the roads of Great Britain; today there is 10,000,000, two-and-a-half times as many. In 1958 there was the Nugent Committee, and a paragraph

from its report was reproduced in Mr. Rawlinson's Paper, a fairly anaemic paragraph. It was said that there ought to be a survey. Of course there should be a survey to see what was required. Probably in 8 or 9 or 10 years' time we should have a ring road, or something else. Could we possibly afford so much time in the face of the avalanche of traffic?

Whilst he did not wish to be ungrateful for what we had, he would like to say to authority: "Get down to work; time is not on your side and it is much later than you think."

Question of Procedure

MR. RICHARD EDMONDS, chairman, L.C.C. Roads Committee, who expressed his great pleasure in attending this "revival meeting," joined issue with the Minister on the question of the time factor and Government procedure. He urged that, when a public inquiry had been held and matters had been threshed out, as they should be, the Ministry of Housing and Local Government should help the Ministry of Transport by coming to a decision reasonably quickly. He considered that a period of over a year to deal with a public inquiry in relation to a major intersection—he did not name it—was far too long; that was where the Government of the day could really save time, and he hoped that attention would be given to the matter.

Concerning the "A" ring road, he commented how tremendously destructive of the amenities of the central area of London it could be, and he did not think it was the solution to linking up with the great motorways, which it was the task of the capital city to achieve.

It was all very well for American cities to spread far and wide in solving the problems of interchanges, often taking up 20 or 30 acres at a time; it was all very well for Moscow to do the same in the design spreading out to Leningrad. They had the land with which to do the things they wanted to do. But land here was extremely precious and it was behoven on the engineers, consultants, architects and the committees concerned to seek solutions that were ingenious and compact, yet providing for the flow of traffic.

ALD. J. SERRELL WATTS, C.B.E., J.P., M.A., chairman, Essex Highways Committee, said Mr. Rawlinson had made no reference in his admirable Paper, at least by name, to the north circular or south circular roads; perhaps he would agree that the south circular was not a road!

If anyone wanted to make a journey from Essex to the west of London he would toss a penny to help decide whether he would go through the centre of London or around the north circular road, because the journey took a long time either way; it was a 50/50 chance.

It had been admitted by Mr. Rawlinson that since the road works at Hyde Park Corner had started the traffic had been flowing faster than before. It was right to use that from the time the roundabout there first started working and before the temporary bridge was erected. One wondered whether it would not have been best to have stopped at that point, having got the traffic flowing well, and to have spent the remaining £1m. on finishing off the north circular road, where not so much required to be done.

As the result of the improvements effected in the centre of London the driver from Essex could put his penny in his pocket and decide to use the route through the centre. The results of so doing he left to the imagination!

That Inner Ring Road

MR. ALAN PROUDLOVE, University of Liverpool, head of the Department of Highway Engineering, who was awarded the Roads Campaign Council prize in 1959, said the Paper contained the most significant observations on planning for traffic in cities that he had read in a British document. He had in mind the remarks made in the Paper regarding the "A" ring road for London, where no less a figure than the Chief Engineer of the L.C.C. had

at last had the vision to realise that there could be a better planning solution than the universal inner ring road.

Having just returned from Holland where, in 25,000 miles of routes, he had seen no inner ring roads, he had visited almost every metropolitan city in that country and had spoken to many engineers, planners and businessmen, but had found none with plans to construct inner ring roads as such. All were connecting radials in pairs, tangent to the centre of a city.

The object of his study was to formulate a set of workable traffic plans. Foremost among them was the tangential radial arrangement described by Mr. Rawlinson. The connected radials might encircle the centre of a city, but did not form a ring in the sense accepted in British planning. There was also well developed evidence to support the location and design of radial freeways, which were of considerably greater influence on a city traffic pattern than were ring roads.

ALD. CYRIL SMITH, chairman, Wembley Highways Committee, spoke of the extreme difficulty which his authority suffered in trying to get parking space adjacent to railway stations. There were many railways into London from his area. The Borough Engineer had made a survey and had found there was a good deal of land by the railway stations which could take a lot of the cars coming in from Buckinghamshire, and their owners could become extra passengers for the railways into London. He hoped that a powerful committee would be appointed to deal with the traffic problems; it might be able to ease the restrictions in negotiating with the railway authority, who had said they were holding the land for strategic purposes. Nonsense!

Airport Connections

MR. DONOVAN H. LEE, consulting engineer, asked whether the author felt that, as part of the suggested integrated plan, improvement could be made in the convenience and overall speed of travel to and from airports. It had been said by the Chairman of the B.E.A. that quicker travel to London Airport might be worth £1m. to his organisation. Neither the B.O.A.C. nor the B.E.A. terminals gave convenient connection with the railways or with bus services. At Geneva, Basle and Zurich, however, the airport bus services terminated at the main railway station in each case, without even a street to cross.

He also asked if Mr. Rawlinson considered it was possible that a limit should be put on the number of cars to be provided for in car parking garages in the inner area, with a view to avoiding the possible great increase in commuting private cars, which would in turn cause more congestion at peak hours or more cost in improving the approach highways.

When in New York recently he had noticed the monthly rates for garaging a car at the East Side Airlines Terminal was 35 dollars for daytime parking, but 25 dollars for alternative night use. That seemed to suggest that there was economically favourable siting for parking garages at places where there was about equal demand for day-time parking and night-time garaging.

Mr. Rawlinson, in a brief reply to the discussion, said the cost of the proposed "A" ring road in 1948 was about £80m., but now it would be about £150m. or £160m. It was impossible now to build a main ring road on the 1948 line because there were other things just where it was suggested it should be. Concerning Ald. Watts' reference to the north and south circular roads, he was afraid they would have to take their place in the queue; we were trying to do first things first. It was true that the south circular was not a road at all.

In reply to Mr. Lee he said that when the viaduct was completed at Hammer-smith it was hoped that the airlines would be able to carry passengers between London and the airport in 26 or 27 minutes.

To be concluded

HISTORY OF FOUNDATION ENGINEERING

Mr. F. R. Bullen's Presidential Address

A FACTUAL survey of foundation work, site investigation, well-drilling and piling from earliest times up to the present day formed the subject of the Presidential Address given by MR. F. R. BULLEN, B.Sc (Eng), M.I.Struct.E., M.I.C.E., to the Institution of Structural Engineers last week.

Tracing the history of foundation work, Mr. Bullen mentioned the early structures of Egypt in 3000 B.C. and gave examples of developments in foundation preparation through to the present day. The principles, he pointed out, have not changed; only the equipment, for greater efficiency of execution.

Art and a Science

"Admittedly, theory has advanced, practice is better understood and even weather forecasting is now based on greatly enlarged scientific information," he stated. "Nevertheless, we need repeatedly to remind ourselves that in the realm of foundation engineering no theoretical answer can be closer to the truth than the original assumptions are to the actual conditions. Foundation engineering is both an Art and a Science."

Development of Equipment

Dealing with developments in plant and equipment, Mr. Bullen said:

"It seems to me that the changes which have been taking place in the course of history have been largely those associated with the development of plant and equipment. Even in the middle of the nineteenth century it was possible for Cresy to say:

The application of the steam engine to bridge building has wonderfully economised both labour and time; piles are driven, their heads cut off by its power; manual labour has been greatly abridged, and the use of horses almost rendered unnecessary . . . and heavy weights are moved by very simple tackle and machinery.

"And whereas in 1908, a hand-book on excavation methods said this:

The systems adopted comprise barrow runs, horse and cart, and rail transport; the latter include hand trollies, horse wagons and trucks drawn by locomotives and by ropes worked by stationary engines,

today vast quantities of mechanically operated plant are used.

"In the few short years during which I have been privileged to work in structural engineering (some 35 years), practically all the modern techniques have been evolved. No wonder it seems impossible to keep abreast of developments. What do we do today? We excavate, seldom by hand, often by machinery. We compact the ground by mechanical rolling or ramming, we place a layer of in-situ concrete by machinery and then we construct our reinforced concrete foundations using all kinds of mechanical aids. We take care to place the concrete as quickly as possible and with the aid of vibrators. We place the concrete as dry as possible to avoid the effects of moisture upon the ground. But the ground has not changed; largely it is our methods of construction which have improved.

"For the foundations of some new flats in Eastbourne, Sussex, recently erected, it was necessary to excavate piers down to a depth of 20ft. on to a hard layer of 'plavender' or cemented greensand; the intensity of loading was approximately 4 tons/sq. ft. and an average pier load was 100 tons. For this purpose hand excavation was used in the shallow piers and a

mechanical excavator was used down to a depth of about 15ft.

"A few months earlier, in Accrington, for column bases supporting loads of about 300 tons, excavation into shale was effected by means of rotary boring equipment forming a hole about 4ft. 6in. diameter which was belled out to 6ft. 6in. diameter at the base. It may be of interest to record that the design load on the shale was taken as 12 tons/sq. ft.; some small samples of the shale obtained during a preliminary drilling and trimmed to form blocks about 1in. by 1in. by 1in. were crushed to a failure pressure of 73 tons/sq. ft.

Theoretical Design

"So far as the theoretical design of foundations is concerned, it would probably be true to say that little more than the simple division of total load by safe



F. R. BULLEN

bearing pressure was used until relatively recently. Leonardo da Vinci (1452-1519) is said to have been first to calculate the forces in a structure, but no reference is made to foundations. The name of Robert Hooke (1635-1703) is well known but not in relation to foundations. Some engineers or builders seem to have appreciated better than others the importance of settlement; for example, T. Hughes' comment about 1840 that foundation should be allowed time in which to settle before the superstructure is built. But the concept of designing for equal settlement rather than equal bearing pressure is recent. Would it be right to say that it has only developed during the last 35 years? The publication of 'Erdbaumechnik' by Terzaghi in 1925 was the starting point for independent thought on foundation design. Dr. Oscar Faber (1886-1956) (past president) will be remembered as one who inquired into and measured the distribution of stress under isolated column footings.

Underpinning

"During the past 30 years or so, I have been connected with many schemes involving underpinning. In 1942, a reinforced concrete framed building in the East End of London supporting a water tank on the roof, was damaged by enemy action which largely removed the supports to the water tank as well as puncturing the tank itself. This building also contained one of the factory boiler houses. Accordingly, after repairing the tank, a steel framework was erected inside the building up to the floor

of the water tank and at the top of this frame stub cantilevers were arranged in such a way that by tightening the anchor bolts, the cantilevers were caused to lift the water tank structure and thus relieve the main reinforced concrete columns of their loads. It was then possible to cut out the defective reinforced concrete, reconstruct the columns and floors and finally to reapply the water tank loads to the columns. During the work the tank, which contained some 100,000 gallons of water, was kept full for fire-fighting and other purposes. This same building was also modified at a later stage to enable it to house additional boilers, and for this purpose one wall at ground level was removed and replaced by a reinforced concrete framework. This entailed underpinning the wall and for this purpose the wall was carried temporarily on needles jacked up from a temporary steel framework. By adopting a jacking method it is possible, and indeed it is necessary always to impress into the temporary and the permanent works all the deflections likely to be involved so that when the loads are transferred finally to the new structure, no further deflections may take place.

"When Grosvenor House was extended some five or six years ago, it became necessary to support the existing column foundations whilst a new, deeper basement was constructed. For this purpose a series of bored piles was driven around the site, nearly touching next to existing bases and open spaced elsewhere. The piles were thus arranged to carry the vertical loads of the new columns and at the same time to retain the ground and prevent settlement of the existing bases.

"During the rebuilding of Binns store in Middlesbrough, the adjoining buildings required underpinning to permit the new basement to be constructed at appreciably lower levels. For this purpose, rows of bored piles were constructed alongside the existing buildings and to depths sufficient to enable the piles to support both vertical loads and horizontal ground pressures. The existing building walls were then cut away in short lengths and reinforced concrete stubs built into them off the tops of the bored piles. By this means, the loads on the walls were transferred to the bored piles in stages. It was then possible to excavate on the new site to calculated depths at which temporary timber strutting was introduced to resist the horizontal reactions in the piles."

Site Investigation

Turning to site investigation, Mr. Bullen reviewed techniques from Roman times, through the problems overcome by England's medieval builders, and on to a description of modern practice.

"Today, the importance of adequate site investigation cannot be exaggerated," he said. "And yet, in some quarters still, the cost is looked upon as scarcely necessary, a possible time waster and certainly not a means for economising. Even in 1935, A. C. Dean advised that a site investigation, including test piles, undisturbed samples and the soil strata sequence should be carried out on all sites of important works. Recent experiences have emphasised how essential it is to explore the ground fully before embarking on the design of important or, indeed, any foundations.

"When examining the ground for a bridge some two years ago, it was found that the chalk varied markedly from one end of the bridge foundation to the other end; in a distance of 120ft. the safe ground pressure varied from 1½ to 6 tons/sq. ft. It is reported that Sir Robert Smirke (1781-

(Concluded on page 1832)

£2.4M. HOSPITAL CONTRACT FOR HUMPHREYS

THE North West Metropolitan Regional Hospital Board have placed a £2.4m. contract with Humphreys, Ltd., 199 Knightsbridge, London S.W.7, for the construction of a 300 bed hospital at Wexham Park, Slough, Bucks.

Ward accommodation, out-patients, casualty, operating and other diagnostic and service departments will be contained in the main hospital building. Also included in the contract are seven inter-communicating hostel blocks, three storeys in height, three houses for residential accommodation, a nurses' training school, a boiler house and workshop block and an animal block.

Powell and Moya, 36 Great Smith Street, London, S.W.1, are the architects for the scheme. The consulting engineers are, for structural work Felix J. Samuely and Partners, 231 Gower Street, London, N.W.1, and for mechanical and electrical work J. Roger Preston, 15 North Audley Street, London, W.1. Davis, Belfield and Everest, 9 Ashley Place, London, S.W.1, are the quantity surveyors.

GOVERNMENT CHANGES New Minister of Housing

Among the Government changes announced this week by the Prime Minister were the following: Minister of Housing and Local Government—Dr. Charles Hill (formerly Chancellor of the Duchy of Lancaster); President of the Board of Trade—Mr. F. J. Erroll (formerly Minister of State, Board of Trade); Minister of State, Board of Trade—Sir Keith Joseph (formerly Parliamentary Secretary, Ministry of Housing and Local Government); Joint Parliamentary Secretary, Ministry of Housing and Local Government—Mr. Geoffrey Rippon (formerly Parliamentary Secretary, Ministry of Aviation).

Mr. Henry Brooke, who was formerly Minister of Housing and Local Government, has been appointed Chief Secretary to the Treasury and Paymaster General.

SKELMERSDALE NEW TOWN DESIGNATED

The Ministry of Housing and Local Government has announced that Skelmersdale in Lancashire is to be the site of a new town, the first to be designated in England and Wales for 11 years.

The primary purpose of the new town will be housing people from Merseyside, and the target population will be 80,000. The Minister has confirmed an order designating 4,029 acres for the purpose. A public enquiry into objections to the draft order was held on May 31 and June 1 and 2.

LONDON VISIT BY FRENCH MARKETING EXPERTS

Three French marketing experts are to visit London shortly. The purpose of the visit, organised by Mr. Adam Johnstone of Sales Audits, Ltd., London, is to inform groups of British businessmen of the great potential market for their products which exists in France and how best to interest French buyers.

The visitors are M. Gerard Le Pan de Ligny, a distinguished French marketing consultant, M. John Lyons, marketing director of a Paris advertising agency, and M. Frederic Pain, specialist in French Marketing research and sales organisation. They will hold two one-day study sessions at the Connaught Rooms in London on October 30 and 31, under the general heading of "How to Sell More in France." Discussions will cover French advertising and agency practice, distribution channels and outlets, type of demand and legal problems.

Other experts from Germany, Italy and Scandinavia will be visiting London later this year for similar discussions on their own markets.

STAFFORDSHIRE LINK ROAD £377,093 Contract Placed

MR. ERNEST MARPLES, Minister of Transport, has authorised Staffordshire County Council, acting as his agents, to accept the £377,093 tender of Percy Bilton, Ltd., Newcastle Road, Stone, Staffs., for work on a new trunk road between Hanford Bridge, on the A.34, and Hanchurch, on the A.1.

The new link road, which covers a length of 1.06 miles, will have dual 24ft. carriageways, a 15ft. central reservation and an overall width of 88ft. Four bridges are included in the contract, one of which is a 30ft. span bridge over Lyme Brook.

Designed by Staffordshire County Surveyor's department, the road forms part of the south-westerly section of the Potteries "D" Road, included in the Staffordshire and Stoke development plans.

SCOTTISH HIGHWAY ENGINEERS' DINNER

Trunk road expenditure in Scotland will rise from the present £4m. per year to £10m. in five years' time, stated Mr. R. C. Brooman-White, Under-Secretary of State, at a dinner given last week by the Scottish Branch of the Institution of Highway Engineers.

At £10m., trunk road development should keep pace with the annual traffic growth, added Mr. Brooman-White. Such a trunk programme would have major impact on long distance traffic speed. Provided he did not touch a city, a motorist should do M.1 speed all the way on most journeys. By the 1970's a very high proportion of all long distance motor traffic would be on roads as safe as highway engineers could devise.

There remained the problem of transfer from the motorway to the slower roads. Some means would have to be devised to persuade the motorist to adapt his nature to the changing type of roads. Urban travel would also have to be reassessed.

Other speakers at the dinner included: Mr. J. Singleton-Green, senior vice-president; Mr. F. J. P. Lilley, M.P.; Bailie Edward Clark; Mr. T. McCallum; Mr. Hugh Gillies; Mr. N. W. Jensen; and Mr. W. Livingston, the chairman.

NEED TO LINK PLANNING AND DESIGN

Sir William Holford said recently that what this country needed was an up-to-date set of principles for land development and redevelopment and a greater link between planning and design.

He was speaking in London, following his presentation with the Gold Medal of the Town Planning Institute.

"Indecision and lack of personality typify planning in many towns in Britain," he stated. "With all the architectural, landscape and engineering skill which is available we find all too few examples of comprehensive layouts and designs in three dimensions. Public transport also is in danger of becoming a liability when in fact it is our greatest hope of reducing the ferocious impact of the motor vehicle on city life.

"The planning system of the 1940s has been dismantled; and although it has left us a most valuable collection of spare parts, they hardly represent a useful machine any longer."

"TALKING OF SAFETY"

A Correction

The description of the correct and safe method of connecting-up a screw-cap lamp (*The Contract Journal*, Oct. 5) as stated is, in fact, incorrect and unsafe. The fourth paragraph, centre column, should read: "This is where the live lead goes through the switch to the centre-point of the lamp, and the neutral side is connected to the metal cap." "Dragee" offers his apologies for the mistake.

Late Construction News

ELM. HYDE PARK TENDER.—At their meeting today, Westminster City Council will be recommended to accept the tender of Sir Robert McAlpine and Sons, Ltd., for constructing a car park and service station beneath the north-east corner of Hyde Park, at a cost of £1,051,915. Space for about 1,100 cars will be provided. Completion is scheduled within 60 weeks.

SOUTHPORT HOUSING CONTRACT.—Southport B.C. have accepted the tender of Sir Robert Lloyd and Co., Ltd., Port Causeway, Bromborough, Ches., at £125,814, for the erection of 56 houses at Staveley Road site, Ainsdale. Work is to commence on November 20.

HUDDERSFIELD CIVIC CENTRE.—The tender of John Radcliffe and Sons, Ltd., St. John's Road, Huddersfield, at £338,200, has been accepted by Huddersfield B.C. for the first stage of their civic centre project in Albion Street and High Street. This stage comprises a four-storey block with car parking underneath. The work is expected to take 2½ years. Plans are by the borough architect, S. M. Richmond.

BRISTOL BRIDGE.—A. E. Farr, Ltd., Westbury, Wilts., have secured an £80,000 contract for the construction of a new Bedminster Bridge for Bristol City Council. The bridge will be a 100ft. span prestressed concrete beam structure, with reinforced concrete abutments and wing walls.

SEWAGE DISPOSAL SCHEME.—A contract for the reconstruction and extension of Stratford-upon-Avon's sewage works has been awarded by the B.C. to M. J. Gleeson (Contractors), Ltd., London Road, North Cheam, Surrey. Their tender, amounting to £361,482, was the lowest of four received.

IPSWICH SCHOOL.—Subject to Ministry approval, Ipswich B.C. are to place a £98,000 contract with R. Bennett and Snare, Ltd., St. John's Road, Ipswich, for remodelling Westbourne Secondary Modern School for Boys.

UNIVERSITY ARTS BUILDING.—The new arts building at the University of Southampton, which includes a Nuffield Theatre, is to be built by Hawkins Bros. (Gosport), Ltd., Westfield Road, Gosport, Hants, at a cost of £483,000. Plans are by Basil Spence and Partners, 1 Canonbury Place, London, N.1. The quantity surveyors are Reynolds and Young, 329 High Holborn, London, W.C.1, and the consulting engineers are Ove Arup and Partners, 13 Fitzroy Street, London, W.1, and G. H. Buckle and Partners, 2 Harrington Gardens, London, S.W.7.

£1.3M. CHESTERFIELD HOUSING.—Chesterfield B.C. have approved a recommendation to place a £1,335,385 contract with M. J. Gleeson (Contractors), Ltd., Sheffield, for building 546 houses at Loundsley Green Estate.

OXFORD LIBRARIES.—William Sindall, Ltd., 347 Cherry Hinton Road, Cambridge, have been appointed contractors by Oxford University for the erection of library buildings at Manor Road, Oxford. Estimated to cost £500,000, the buildings have been designed by Sir Leslie Martin, The Kings Mill, Great Shelford, Cambridge. The quantity surveyors are Monk and Dunstone, 9 Stone Buildings, Lincoln's Inn, London, W.C.1, and the structural engineers, Ove Arup and Partners, 13 Fitzroy Street, London, W.1.

ESSO RESEARCH BUILDINGS.—Site preparation has begun at the Esso Research Centre, Abingdon, Berks, for two new buildings—a single-storey laboratory and a three-storey office block. The main contractors are W. E. Chivers and Sons, Ltd., Devizes, Wilts., and the architects are Lanchester and Lodge, 10 Woburn Square, London, W.C.1.

BASILDON BUILDING.—A new building for H.M. Stationery Office is to be built at Basildon New Town, Essex, at a cost of about £390,000. Ministry of Works have placed the contract with Richard Costain (Construction), Ltd., 111 Westminster Bridge Road, London, S.E.1.

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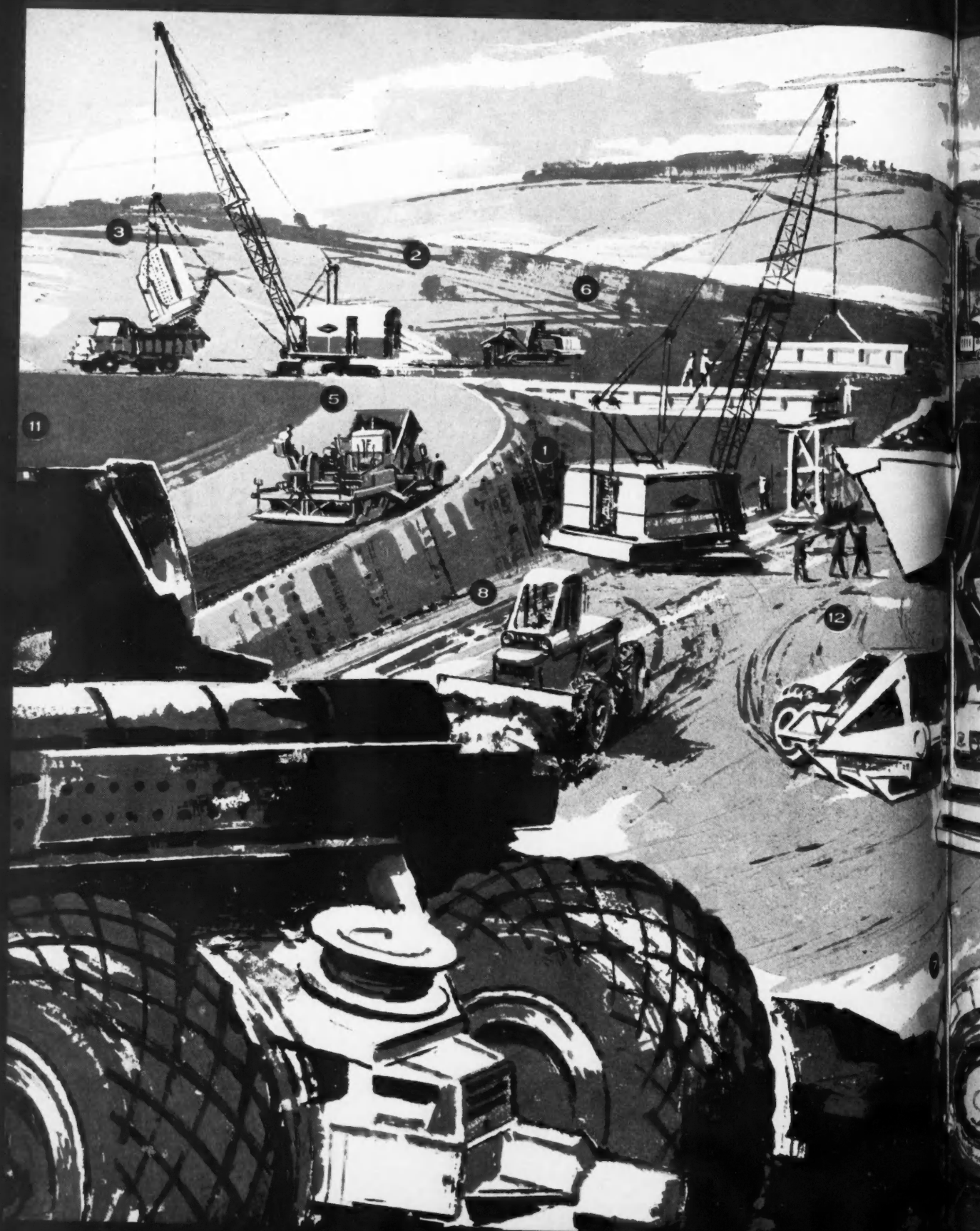
CARDIFF - Crossways Depot, Cardiff, Glamorgan
Tel: Cardiff 244
LIVERPOOL - Seaside Depot, Liverpool, Merseyside
Tel: Liverpool 244
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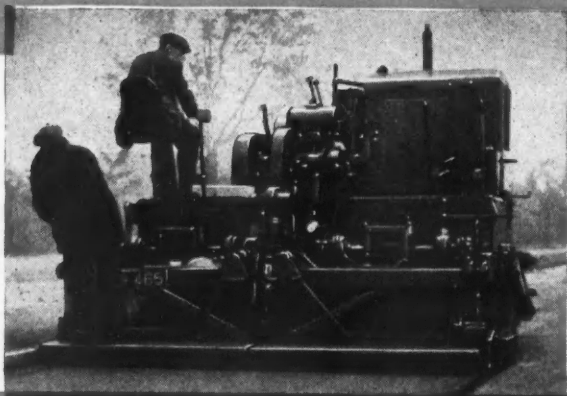
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- 3 **Hendrix Lightweight Dragline Buckets** available from $\frac{1}{2}$ to 40 cubic yard capacity.
- 4 **Barber-Greene Batchomatic.** Barber-Greene Road Making equipment includes Asphalt Plants from 40 to 200 t.p.h. capacity.
- 5 **Barber-Greene 879B Finisher.**
- 6 **Barber-Greene 784 Ditcher.**
- 7 **Yale 204 Tractor Shovel.**
- 8 **Yale Tractor Shovel with Cab and Dozer Blade.**

- 9 **Jack Olding Service** on the site.
- 10 **Vickers Onions 2-157 Sheepfoot Roller.** Vickers-Onions Earthmoving Equipment includes Scrapers, Cable Control Units to fit all makes of Tractors, Rippers, Rooters and Rollers.
- 11 **Vickers Onions Scraper.** These Scrapers are available from 4 to 26 cubic yard capacity.
- 12 **LeTourneau-Westinghouse 'C' Tournapull Fulpak Scraper.** Jack Olding supply the comprehensive LeTourneau-Westinghouse range of earth moving equipment.
- **Rolls-Royce Diesel Engines** for 4, 6 or 8 cylinders, 70-700 h.p.
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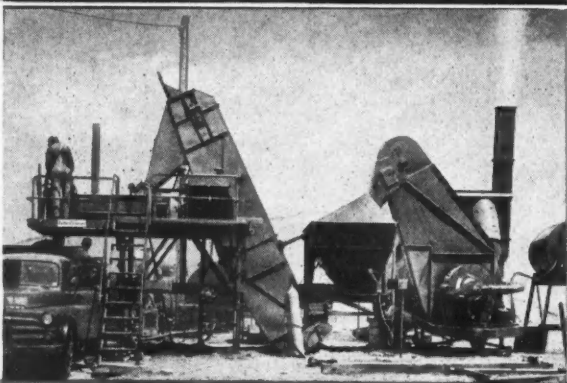
Barber-Greene 879B Finisher.

The 879B Finisher has a standard laying width of 10 ft., which may be varied in 3 in. increments between 8 ft. and 12 ft. (or up to 14 ft. if required) and has a capacity of over 100 tons per hour.



Barber-Greene 873 Finisher.

The 873 Finisher combines tracks and wheels and is designed for small scale jobs where manoeuvrability and speed are so important. Standard laying width is 7 ft. variable in 3 in. increments between 6 ft. and 12 ft. Capacity: over 50 tons per hour.



Barber-Greene Mixing Plant.

The model 840-B is a medium capacity continuous mixing plant for high quality bituminous mixes. It has four basic independent units: mixer, dryer, gradation unit and cold feed unit. Capacity is up to 50 British tons per hour.



Barber-Greene 774 Wheel Ditcher.

Advanced hydraulic controls give more trench under all conditions, with less fatigue and greater comfort for the operator. Exclusive Hydra-Crowd transmission allows instant selection from infinite range of speed.

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A LAWYER CONSIDERS . . .

Some Points on Hire Purchase

SINCE a great deal of equipment and vehicles are bought, particularly by smaller contractors, on hire purchase some comments on this branch of the law may be of interest particularly as a recent case has shown that some of these hire purchase agreements can be financially very onerous.

The first point, and it needs stressing, is—never enter into any hire purchase arrangement without reading the documents you are asked to sign; if, as may well be the case, they are not readily comprehensible the small solicitor's fee involved in getting advice is well worth it. The second point is—always deal with companies of some repute and standing who go to finance houses which are also of repute and standing; if you pay more, which is in any case doubtful, you stand a far better chance of getting a fair agreement which, provided the hirer himself is playing fair, will be fairly administered.

Hire Purchase

It is not always recognised that hire purchase is a transaction very different from a straightforward sale and also different from a sale on credit where the payments are spread over a period, usually with interest. The difference is that on a sale the ownership of the goods passes from the seller to the purchaser; on hire purchase the goods concerned remain the property of the owner until certain events have occurred; after the occurrence of these events, usually after the payment of a substantial portion or even the whole of the purchase money, the property in the goods passes to the hirer who then changes status so to speak and becomes a purchaser and the owner of the goods. It follows therefore that under hire purchase transactions the hirer cannot sell the goods concerned and has only limited rights over them.

Terminating a Hire Purchase

A recent case illustrates somewhat forcibly the snags and perhaps the unfairness of some hire purchase agreements, *Campbell Discount Co., Ltd. v Bridge* [(1961) 2 All E.R. 97]. B. signed a hire purchase agreement for a car under which he paid £105 and one monthly instalment of £10; the total hire purchase price was £482. Under the agreement B. had an option to terminate the hiring and he exercised this right and returned the car. He then received a demand for £206 under a clause in the agreement which provided that if the agreement were terminated under the clause giving the option to terminate the hirer should deliver up the car to its owners and pay them all arrears of hire rent due and unpaid; in addition the hirer should pay "by way of agreed compensation for depreciation of the vehicle such further sum as may be necessary to make the rentals paid and payable hereunder equal to two-thirds of the hire purchase price."

B. thus found himself faced with paying about £300 for one month's hire of the car. Not unnaturally he disputed the claim under this clause but the Court of Appeal held that he was liable to pay the sum demanded.

Of course, under hire purchase agreements it is fair that if the hirer terminates the hire and the owner gets his goods back the hirer should compensate the owner for any depreciation or damage, etc., done to those goods. To meet this depreciation point it is usual to provide for a sum, calculated at a fraction of the hire purchase price, to be paid on termination by the hirer. But in this case the compensation for depreciation worked out at over £200 and was on any reasonable view excessive. B. therefore tried to invoke the well-known rule in contract law that if a contract provides for damages of a certain fixed amount to be paid if one party breaks the contract

(for example the liquidated damages clause in most construction contracts) such damages will be regarded as a penalty and not recoverable at law if they specify an amount which cannot be substantiated as a reasonable pre-estimate of the actual damage suffered. B. said this sum which the finance company were demanding was a penalty and was not therefore recoverable.

In dealing with this argument the Court of Appeal made a distinction which probably will not find much favour with non-lawyers. The Court of course accepted the rule just mentioned concerning penalties, but said that the rule only applied where there was a breach of contract; for example, it would apply on a building contract in a case where the builder by his own fault completes late so that he is in breach of contract and would have to pay liquidated damages unless he could show that the figure of such damages in the contract was a penalty.

But in this case the Court said in effect—where is the breach of this contract? B. had merely in terminating the agreement exercised a right under the contract and the owners, on receipt of that notice to terminate, had exercised the right given to them in those circumstances; it was to be presumed that B. had known what consequences would flow from the exercise of the right to determine or at least he must be taken to have known what the agreement he had signed actually provided. The Court therefore said B. must pay up this sum.

One fact, however, troubled the Court; B. would have been better off if he had, in fact, been less honest and had broken his contract. If he had just refused to pay any more instalments and handed over the car he could have been sued for breach of the hire purchase agreement and the damages would have been limited to what the owners could actually prove they had suffered. If they had got the car back in reasonable condition their actual damages would have been considerably less than the £206 B. had to pay. This consideration did not, however, cause the Court to change its decision.

Whatever the legal subtleties involved in this case the real lesson from it is that if B. had really understood his agreement and that he would be bound to pay this excessive sum he might either not have entered into the agreement or else thought twice before terminating it.

Protection of Hire Purchase Acts

It may be noted that the Hire Purchase Acts 1938 and 1954 have been passed with the aim of protecting people from themselves and from those who try to draw up very hard bargains in this increasingly important field. Briefly, they apply where the hire purchase price is not more than £300 so that transactions involving road vehicles are usually outside their scope; they limit the amount the hirer who terminates the agreement has to pay as compensation to one half the price and they forbid the owner to take back the goods after the hirer has paid a certain proportion of the hire purchase price. It would seem desirable for an extension of this legislation to cover goods up to a much higher cost figure.

Defective Hire Purchase Goods

The question of getting legal redress for defects in goods supplied was discussed in an article in *The Contract Journal*, October 27, 1960. Under hire purchase agreements the difficulties in this matter are not eased by the fact that the actual hire-purchase agreement is not usually with what one may call the actual seller of the goods but with the finance organisation to whom that seller looks for his money. The hirer therefore usually has no contract with the actual seller

and no contractual remedy against him if the goods go wrong.

Of course, if the actual seller induced the purchaser to go ahead with the hire purchase through downright fraud, for example saying the brakes on a lorry were good when he knew they were grossly defective, then the actual seller is liable for the damage resulting from that fraud; moreover if the actual seller in some way warrants the goods as being sound, etc., and as a result the purchaser enters into a hire purchase contract for those goods with a finance company, there may be sufficient facts to constitute a contract between the actual seller and the hire purchaser. But more often than not the actual seller cannot be made legally liable to the hire purchaser.

The hire purchaser's contract is usually with a finance company and they will almost certainly take advantage of the well-known drafting devices to exclude liability, at least the kind of liability the common law would impose. Moreover they will take the precaution of including in the agreement with the hirer a statement that the actual seller was not their agent in negotiating the hire purchase agreement; so it would normally be no use trying to say that the actual seller was the finance company's agent and therefore responsible for anything the actual seller stated as to the quality etc., of the goods concerned.

It seems wrong that there is no general provision in the law to make a finance company bear some responsibility for the goods whose purchase they are financing. In the case of goods whose price does not exceed £300 the Hire Purchase Acts previously referred to do imply certain conditions as to quality from which the hire purchase agreement cannot contract out; but for goods in excess of that figure there is no protection except care in reading and understanding exactly what the hire purchase contract provides.

Points to Watch

It is impossible to point out every snag but the following are among the most important points to look for when entering into any hire purchase agreement. Is the total price £300 or less? If so the Hire Purchase Acts apply and some protection is given. What responsibility does the actual seller take? Does the agreement expressly state that he is not the finance company's agent? If so try and get some warranty or guarantee, in writing, from the actual seller which is expressed as being given in consideration of your entering into a hire purchase agreement with the finance company. What obligations as to fitness, etc., of the goods does the finance company accept? Try and make them accept some obligation. What rights has the hirer got to terminate the contract and what does he have to pay if he exercises this right? If the payment in these circumstances could be large make sure that you really intend to, and can, complete the transaction as termination would be very expensive. When does the hirer become the owner of the goods? This is important to note as until ownership passes to the hirer he cannot sell or deal in the goods except with the express agreement of the finance company.

INSTITUTE OF BUILDERS

New Honorary Fellows

The President of the Institute of Builders has announced that invitations to become Honorary Fellows of the Institute have recently been accepted by: Sir Winston S. Churchill, Sir Malcolm Trustram Eve, The Most Reverend Archbishop Lord Fisher of Lambeth, Mr. Ian Murray Leslie, Major-General C. Lloyd, and Sir Hendrie Oakshott.

URBAN ROAD CONSTRUCTION IN GERMANY

Mannheim, Ludwigshafen, Dusseldorf and Duisburg

By Our Own Representative

TRAFFIC problems and urban road design and construction were discussed by the Pavings Development Group with officials in Mannheim, Ludwigshafen, Düsseldorf and Duisburg during their recent visit to Germany. Roads and bridges both completed and under construction were also seen.

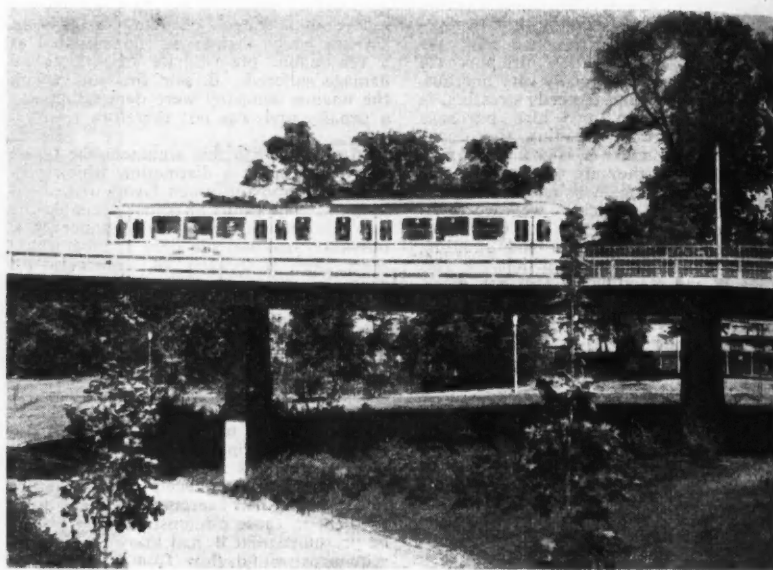
In Mannheim, the city's road officials welcomed the Group at the Reiss Museum and reported on the traffic conditions in the city and described some of the important works which had been undertaken.

Lying at the confluence of the Rhine and Neckar rivers, Mannheim, together with Ludwigshafen, forms the geographical and economic centre of the Rhine-Neckar region, which has a population of about 1,500,000 people, and is the fifth largest concentration of population in West Germany.

Since 1950 the number of private cars registered in Mannheim has increased eightfold. There are now 6.3 inhabitants per motor vehicle and 8.6 inhabitants per private car. The tramway system carries around 60,000,000 persons per year. Within the city boundaries there are some 540km. of roads, including 41km. of through roads on the routes of Federal highways and 27km. of through provincial class roads.

New Rhine Bridge

There are four bridges over the Rhine in this region, but of the entire traffic crossing the Rhine in 1960 nearly 60 per cent. used the highway bridge linking Mannheim and Ludwigshafen. All the Federal highways on either side of the river converge at this point. In 1957 work was



Mannheim Bridgehead. Prestressed concrete structure carries tramway

started on a new deck type structure to replace this bridge at a cost of 9.6 million DM, and since it was opened in October 1959 there has been an increase of almost one-third in the flow of traffic crossing the Rhine at this point.

The new bridge has three spans each 93 metres in length and is about 30 metres

wide. It has six traffic lanes, with an overall width of 19 metres together with footpaths and cycle tracks. The two centre lanes are occupied by tramlines, but are also used by motor traffic.

Mannheim Bridgehead

Work on the two bridgeheads started at the same time as the construction work



Bridge across Rhine connecting Mannheim with Ludwigshafen. In foreground is the Mannheim Bridgehead

on the new bridge. In view of the anticipated traffic flow across the bridge it was decided to construct separate traffic routes, free from grade intersections, in the immediate vicinity of the bridgeheads. Space available for this layout of traffic routes at the Mannheim end was very restricted because of the location of the castle and its grounds, and of the railway.

On the Mannheim side there are two exit ramps leading down from the bridge. Traffic in the opposite direction uses three access ramps leading up on to the bridge. A continuously curved prestressed concrete structure, supported on concrete columns, carries the tramway, free from grade intersections, from the bridge to a point south of the castle. All pedestrian and cycle traffic is segregated from motor and tram traffic. The railway lines serving the port facilities pass under the bridgehead, and future plans envisage the construction of a rapid-transit line in a few years' time; the necessary bridge works for this scheme have already been constructed along with the rest of the project.

In addition to the development of the bridgehead it was necessary to improve the traffic routes linking up with it and for the most part this programme has been completed. In all, 22 new reinforced concrete elevated structures of various sizes have been constructed in connection with the new approaches to the bridge.

Major Highway Improvements

Major improvements are also being carried out to three Federal highways in the city. Highway 44 is being widened over its entire length and its main junctions and intersections are being constructed as multi-crossings. At the intersection of the Frankenthaler Strasse with the Waldstrasse the level crossing with the rapid-transit line is being replaced by a bridge. Altogether in the region nine reinforced concrete bridge structures of various sizes are being built.

Highway 36, the southern exit road, at present passes through the Almenhof

district of the city and through the suburbs of Neckarau and Rheinau. Within the next few years this highway will bypass Rheinau and be developed into a four-lane road over a length of 8km. Work on the northern section of this scheme involving some 3km. is at present in progress. Fourteen flyovers will have to be provided over the length of the road in this development scheme and two of these structures are at present being built.

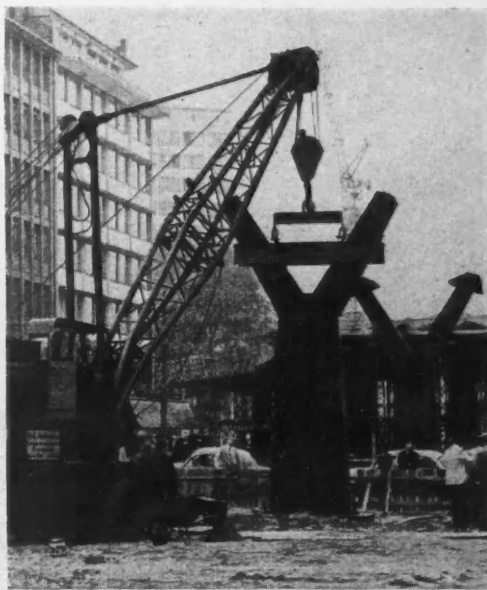
Ludwigshafen

Ludwigshafen, an industrial town with 160,000 inhabitants, has three heavily trafficked trunk roads converging in the centre of the town. The combined traffic flow from these roads proceeds to Mannheim by way of the bridge across the Rhine.

The central area is separated from the other parts of the town by railway tracks and, outside the central area, all intersections with the railway are level crossings. The inadequacy of these crossings, combined with the very considerable growth of traffic in the town during the past few years, has led to serious congestion.

A new road system is now under construction to relieve the situation. This involves the construction of an elevated road carrying the road traffic over the railway lines. In the northern part of the town, 600 metres from the Rhine Bridge, a new bridge is to be built (Nordbrücke) which will be linked to an existing viaduct; this viaduct forms a connection between the town centre and the northern area of the town and is itself to be improved to allow for the ever-increasing traffic. The

Nordbrücke and the improved viaduct scheme and the Rhine Bridge and the east-west road will be inter-connected by a system of elevated roads. This elevated road system will enclose the central area of the town, keeping it free of "foreign" traffic and providing good connections



Jan-Wellem-Platz, Düsseldorf. Steel piers for elevated road

between the town centre and the northern area.

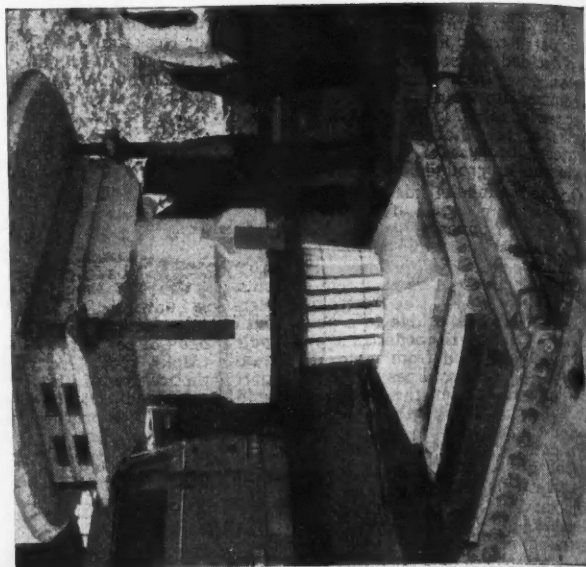
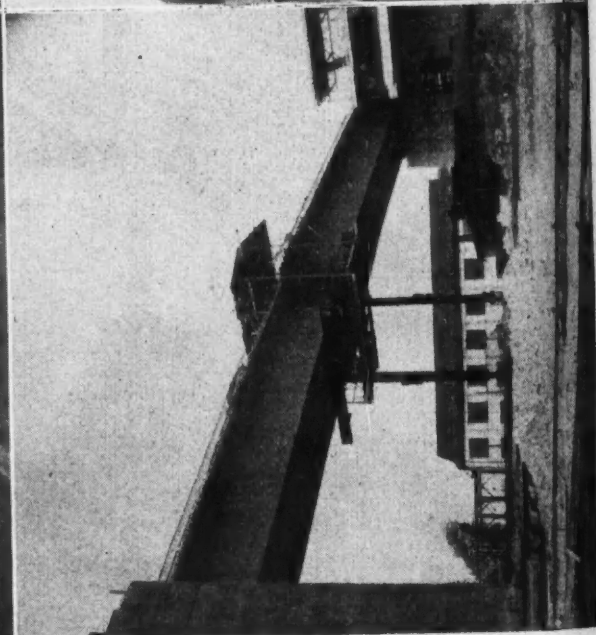
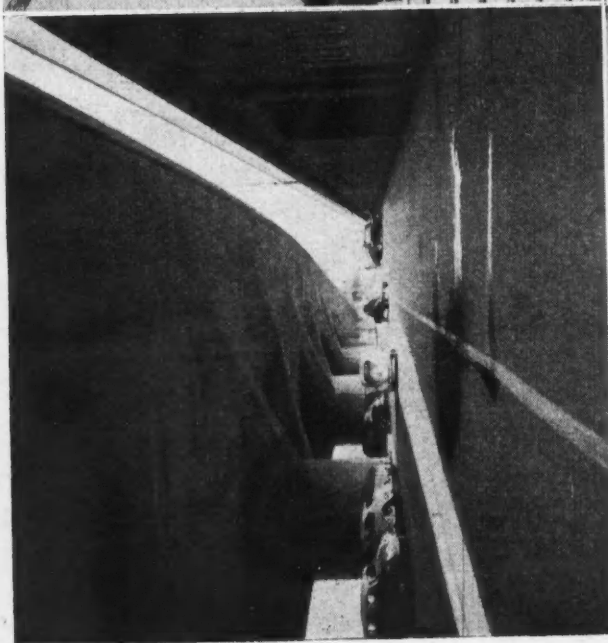
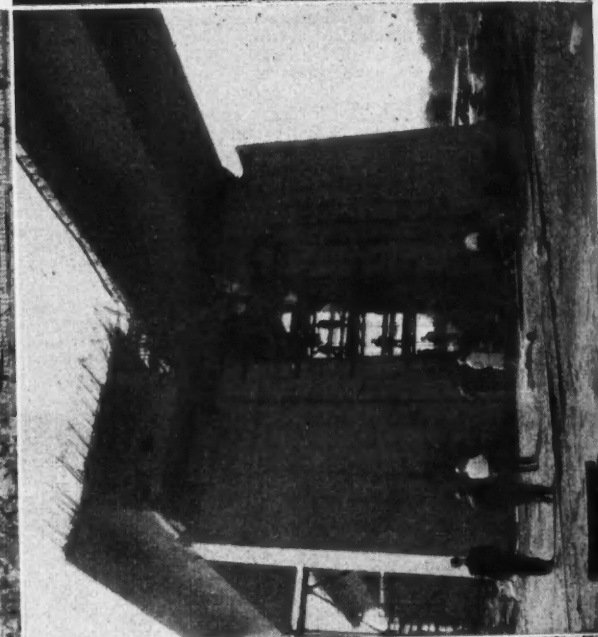
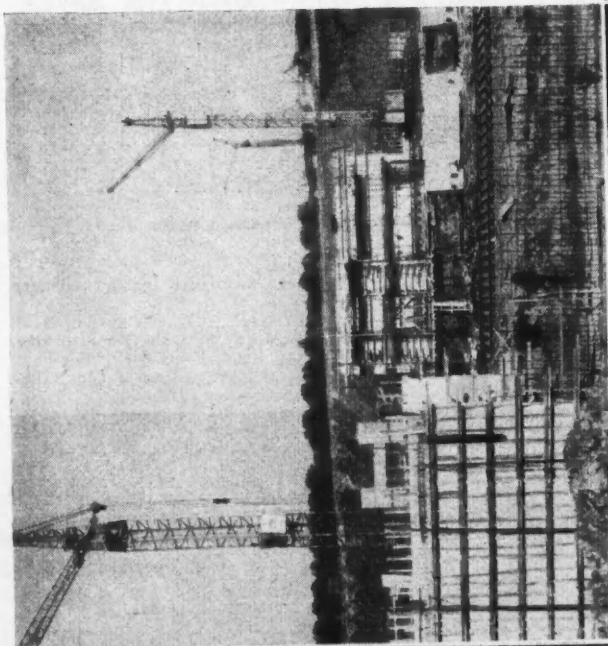
The first stage of the elevated road, running westwards from the Rhine Bridge, has been completed. Over half a mile long, it was built at a cost of some £2m. The



Jan-Wellem-Platz, Düsseldorf. Elevated road under construction

Top:
(Left) Elevated road, Ludwigshafen
(Right) Construction of piers for Berlin
Bridge, Duisburg

Bottom:
(Left) Berlin Bridge, Duisburg. Junction pier
being cast
(Centre) British party inspecting construction
(Right) Double needle bearing at base of piers



structural system used consists of three combined mushroom structures, each carrying a prestressed concrete slab 30 metres by 30 metres; it is believed it is the first time that a system of this type has ever been used.

Düsseldorf

In Düsseldorf, a city straddling the Rhine with a population of some 685,000, the British party were welcomed by the director of construction and other city officials at the Landesbildstelle where plans for coping with the city's traffic were outlined. The first completed section of the city's urban motorway system including the new North Bridge (Nordbrücke) were inspected along with the work under construction for the redevelopment of the Jan-Wellem-Platz in the centre of the city.

The main object of Düsseldorf's first urban motorway is to enable the traffic from the Ruhr to cross the Rhine by the new Nordbrücke and continue to the west without going through the city centre. The motorway will be 16 miles long in all, four miles of it on elevated roads and bridges. It begins at the Nordfriedhof roundabout on the east-west Federal Highway No. 7 and runs westward on an elevated viaduct to the new Nordbrücke, which is an elegant suspension structure.

The elevated approach road is a prestressed concrete viaduct 360yd. long reached by a solid ramp with concrete walls, about 300yd. long. There is car parking space beneath the viaduct and at the junction with the bridge curved reinforced concrete footways lead up on to the bridge. The bridge proper, 520yd. long, continues on the left bank as a flood bridge with a prestressed concrete deck; below this the roadway again comes down to the level on a solid, concrete walled ramp.

In situ concrete construction has been used for the elevated approach viaduct to the bridge on the right bank. It is a continuous multi-span prestressed concrete structure, curved on plan, with a radius of curvature of 3,280yd. and a longitudinal gradient of 0.6 per cent. The superstructure has a construction depth of 41ft. and an overall width of 75ft. The carriageway of four lanes is 50ft. wide, with 1yd. safety margins on each side. The central reservation consists of concrete slabs having holes which let light

through to the ground-level roads below. Footpaths and cycle tracks are cantilevered out from the main beams. These beams are placed at 40ft. centres and are box section in type, with diaphragms at 2yd. centres. They are supported on 10 pairs of reinforced concrete columns elliptical in section, and faced with natural stone. These columns are spaced at 100ft. intervals.

Several of the viaduct columns are founded on caisson type cylinders, 34yd. in diameter and 9yd.-13yd. in length, each of which virtually forms an extension of the column into the ground. The rest of the columns have stepped block type footings 34yd. by 54yd. on plan. The working load per column is 700-850 tons.

The viaduct beams were prestressed longitudinally and transversely, the prestressing being applied in two stages. The beams and the deck slabs were concreted in a continuous operation, working span by span.

The ramp structure leading up on to the viaduct has an earth fill between its reinforced concrete walls, and cantilevered concrete slabs carry the cycle tracks and footpaths. Expansion joints are provided at 60ft. intervals and each of these sections is stiffened by two diaphragm walls.

After crossing the Nordbrücke the motorway becomes the Brüsseler Strasse and has a number of grade-separated intersections. Next the motorway crosses the Hansa Allee by means of an overpass and continues to the Heerdter Triangle Junction. This multi-level interchange serves several traffic routes.

Jan-Wellem-Platz

The redevelopment of Jan-Wellem-Platz includes the construction of a new through road some 635 metres in length. Of this about 300 metres forms an elevated prestressed concrete structure, the first section of which is due to be completed by the end of the year.

Duisburg

Of particular interest to the British party was the Berlin Bridge, now under construction in Duisburg. It forms part of the new urban motorway, the Nord-Süd-Strasse, running through the built-up area of Duisburg and surrounding districts. Free from intersections and frontage access, the motorway when completed will be about 20km. in length. With a design

speed of 80km./hour, the road has an overall width of 25 metres, comprising 7.50 metres wide dual carriageways separated by a central reservation of 4 metres. The carriageways are provided with 0.5 metre wide marginal strips. The outer verges, 2 metres wide are unpaved. The minimum radius is 300 metres on horizontal curves, and 5,000 metres on vertical curves of the main carriageways. The maximum gradient is 1 in 25. Acceleration and deceleration lanes of at least 180 metres and 120 metres length respectively are provided at access and exit ways.

At the present time a length of about 2km. of the Nord-Süd-Strasse is open to traffic. This section, running between the Grunewald and the Landfermann-Strasse access points, by-passes the central area of Duisburg; it is now in process of being extended northwards. The first part of this extension involves the construction of a 372 metres long prestressed concrete bridge (a nine-span structure with box type girders) over railway installations and the construction of a clover-leaf intersection with the new Ruhr Expressway.

Berlin Bridge

The Berlin Bridge begins north of the clover-leaf intersection and carries the Nord-Süd-Strasse to the Bürgermeister-Pütz-Strasse at Meiderich. It is approximately 1,860 metres long, and is the most important and costly structure of the whole urban motorway scheme. It crosses the Ruhr, the Rhine-Herne Canal, an industrial area, "C" Dock, and the Meiderich City Park.

The bridge comprises the following sections, each of which is a major highway bridge in its own right: (1) Prestressed concrete approach bridge over the river bank, with a span of 23.00 metres; (2) steel bridge over the River Ruhr, with spans of 90.00 metres, 150.00 metres and 104.05 metres; (3) prestressed concrete bridge over the Rhine-Herne Canal, with spans of 66.15 metres, 84.80 metres and 65.18 metres; (4) prestressed concrete bridge over an industrial area, with spans of 80.92 metres, 72.05 metres, 85.31 metres and 76.85 metres; (5) steel bridge over "C" Dock of the river port, with spans of 69.50 metres, 132.10 metres and 69.50 metres; (6) steel bridge over the Ruhrort-Hafen railway station, with spans of 75.10



Night view of the Nordbrücke, Düsseldorf

metres, 80.30 metres, 88.70 metres and 67.20 metres; and (7) prestressed concrete bridge over the Meiderich city park, with spans of 22.40 metres, 9×27.80 metres, 28.50 metres and 25.00 metres. This is the elevated road section.

Subsidence Problem

Coal is mined under the entire area crossed by these seven bridges, and it is anticipated that the river port area will undergo subsidence of up to 2.40 metres over the next 10-15 years. The bridge structures will thus be subjected to movements in the form of tensile, compressive and vertical displacements. This has necessitated the provision of special devices for adjusting the levels of the bearings on the intermediate supports.

By this means, differences in level that may arise in course of time can be compensated, which is essential because the various sections of the bridge have been designed as continuous structures.

Longitudinally the superstructure of the bridge consists of two independent halves, each carrying one two-lane carriageway. This principle has been adopted both for the prestressed concrete and for the steel portions of the superstructure (with the exception of the section over the Meiderich city park, in which the deck is continuous over the full width of the bridge).

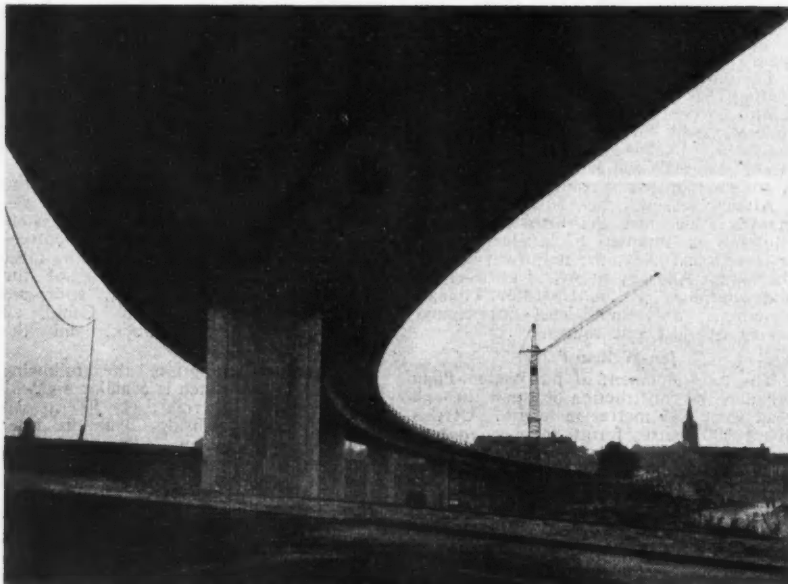
The overall width of the bridge is 25 metres. The 7.50 metres wide dual carriageways have a 0.50 metre wide marginal strip and a 1.00 metre verge on each side. Concrete guard kerbs are

placed on both sides of the carriageways. The space, 2.00 metres in width, between the two separate superstructures is covered by gratings. Service footways, 0.83 metre wide, are provided outside the external guard kerb. The lighting equipment, which is installed on the central reservation, consists of twin-armed lighting columns, equipped with sodium vapour lamps and spaced at approximately 30 metre intervals.

"Group" piers, of hollow construction, are provided at the transitions between the successive sections of the bridge. No arrangements for subsidence correction have been made at these group piers, as they will be used as fixed points in respect of compensating the movements. The correcting devices have been provided at the solid intermediate piers. Each of the "group" piers has a fixed bearing on the south side and a movable bearing on the north side. Provision for longitudinal movements on the superstructure of up to about 90cm. has been made at these piers.

With the exception of sections (1) and (7), the prestressed portions of the Berlin Bridge have three-span or four-span continuous superstructures, each structurally independent longitudinally half of which consists of a box girder, with a construction depth of 3.67 metres. The top slab forming the bridge deck cantilevers on either side. The section over the Meiderich city park (section 7) has a construction depth of only 1.37 metres, and its superstructure, which is not separated longitudinally, is continuous over 12 spans. The piers are fixed to the superstructure and are supported at the base on double needle bearings permitting movement in all directions.

As the local residents and the users of the waterways, roads and railways crossed by the bridge require large clearances over these traffic routes during the construction period, part of the superstructures have to be erected by cantilevering. The cost of the main structural work will be about 49 million DM; the overall cost of construction will be about 60 million DM. It is expected that the Berlin Bridge will be open to traffic at the beginning of 1963.



Heerdter Triangle Junction, Düsseldorf, under construction

ROAD ACCIDENT FIGURES ANALYSED

ONE out of every 1,100 children between two and eleven years of age, and one person out of every 870 aged 70 years or more was killed or seriously injured as a pedestrian on the roads in this country in 1960.

These facts are among those contained in the annual report on Road Accidents, issued by the Ministry of Transport and the Scottish Home Department through H. M. Stationery Office (price 5s.).

The analysis shows that these classes—people aged 70 or over and children between 2 and 11 years are the most vulnerable groups of pedestrians. For children, two to seven years are the particularly dangerous ages; one in every 960 of this age group was killed or seriously injured on the roads in 1960.

Fatal casualties increased by seven per cent. over the previous year to 6,970, while serious injuries increased by 5 per cent. to 84,443. The total number of casualties—347,551—was 4 per cent. more than in 1959. Motor vehicle mileage was up by 7 per cent.

The increase in motor-cycle, scooter and moped casualties in recent years has been mainly among the under 25s. In 1960, 13,907 riders were killed or seriously injured in this age group—nearly twice as many as in 1956. Among 18 and 19-year olds, one person out of every 260 of the population was killed or seriously injured on a motor-cycle or scooter.

London-Birmingham Motorway

During its first year of operation, there were 241 personal injury accidents on the London-Birmingham Motorway (M.1)—22

people were killed, 161 seriously injured and 240 slightly injured. The casualty rate per vehicle mile travelled on the motorway was about half the rate on other roads without a speed limit; but where accidents occurred on the motorway, they tended to be more severe.

An analysis of the vehicles involved in accidents in 1960 shows that, mile for mile travelled, those most likely to be involved are mopeds, scooters and motor-cycles. The least liable to accident are the heavier goods vehicles.

The report underlines the need to secure the co-operation of the public in road safety measures.

The main safety campaign organised by the Ministry and the Royal Society for the Prevention of Accidents during the summer months of 1960, had the theme "Honour Your Code". Its object was to impress on all road users the practical advice given in the Highway Code, of which about 3,000,000 copies were distributed during the year.

Under the National Child Cycling Proficiency Scheme, 132,000 children were trained and tested, and 102,000 passed their test. The valuable scheme organised by the R.A.C. in conjunction with the A.C.U. for the training of learner motor-cyclists was also encouraged, and the Minister announced a grant of up to £3,000 to help defray the cost of the scheme and to foster its expansion.

During the year, 1,684,208 driving tests were conducted by the Ministry, and approximately 54 per cent. of the candidates passed. It is estimated that about 10 million people held full driving licences during 1960.

L.C.C. DIRECT LABOUR COSTS

The L.C.C. have received from their housing committee details of the final costs of seven direct labour schemes for new dwellings, totalling £437,791, and six for modernisation of obsolescent dwellings or conversion of drying rooms, etc., totalling £168,048.

Three of the schemes for new dwellings show an excess over estimates of £17,109; the other four show total savings of £14,076 leaving a net excess of £3,033. The largest excess, £15,917 at Clapham Park estate over a £99,570 estimate made in 1955, is attributable largely to increased costs of labour and materials, £5,842, and additional works, £8,288.

Only one of the modernisation or conversion schemes shows an excess cost over estimates—£4,328 over a £46,005 estimate made in 1955 for the modernisation of Sunbury Buildings, Boundary Street estate, Bethnal Green. The other five schemes show total savings of £5,182, resulting in a net saving of £854 for the six schemes.

LEON GASTER MEMORIAL PREMIUM

The 1961 Leon Gaster Memorial Premium of The Illuminating Engineering Society has been awarded jointly to Mr. H. R. Ruff, Mr. H. E. Bellchambers and Mr. G. K. Lambert for their Paper "Modern Aids to Lighting Design—Computer Techniques" which was presented at the meeting of the Society held in London last January.

The recipients of the Premium are all with the A.E.I. Lamp and Lighting Co., Ltd., Leicester.

£1M. DEVELOPMENT AT NATIONAL PHYSICAL LABORATORY, TEDDINGTON

Start on Three New Research Buildings

SEVERAL unusual design features are incorporated in a £1 million development now being undertaken at the National Physical Laboratory, Teddington, Middx.

Work has started on three new buildings, two of which—a four-storey building for the staff of the Basic Physics Division of the Laboratory and a laboratory block of the Autonomics Division—will form a quadrangle with the existing radio chemical laboratory. On another part of the site a Mechanical Working laboratory is under construction for the Metallurgy Division.

The Mechanical Working laboratory should be ready in December next year, the Basic Physics building in February, 1963, and the Autonomics building in May, 1963.

The need for these structures has arisen as a result of the reorganisation at the Laboratory in 1958, when some divisions were regrouped and others created. The buildings now going up are for three divisions at present inadequately housed in buildings scattered over a fairly wide area of the N.P.L. site. In addition the new buildings will provide improved facilities and a whole range of new scientific equipment.

Basic Physics Building

In designing the Basic Physics building the Ministry of Works architects and engineers had to bear in mind the specialised needs arising from the nature of the work which involves the study of such things as low temperature, heat, ultrasonics, nuclear magnetic resonance, mechanical properties and high pressures.

Architecturally, the main feature of this block will be the bridging of the public right-of-way by the support of the eastern half of the three upper storeys on five massive columns. Of these five columns the three largest will be exposed, the remaining two being contained within the all-glass walls of a library and entrance hall that are also sited under the "bridge" at ground floor level.

Another feature will be the external staircase of unusual design, having two flights of cantilevered steps springing from a single cranked support of reinforced concrete, that will give access from ground level to the elevated portion of the building, which is also to have a physical link with its existing neighbour, the Applied Physics building.

The Basic Physics building is planned on a 12ft. structural module and will be 320ft. long overall. The main block will be 38ft. wide and four storeys high. The structural module has three sub-divisions of 4ft., which are expressed in the fenestration and provide a degree of flexibility for the positioning of room-dividing partitions.

The link with the Applied Physics building provides an axis upon which are planned the horizontal and vertical accesses in the shape of the main entrance, stairs and lifts. The entrance hall, which will serve also, in part, as a periodical reading annexe to the adjoining library, is to be incorporated with the library in the glazed enclosure under the "bridge."

The remainder of the ground floor will be occupied by temperature-controlled laboratories, sited together, rather than being dispersed throughout the block, as a matter of economy and in close proximity to the plant rooms which serve them. Three general laboratories, one of which will have temperature-control facilities, are to be located in a single-storey wing at right angles to the main block, behind and parallel to the Applied Physics building.

Upper floors of the main block will accommodate a number of laboratories of varying size; offices for scientific personnel, clerical assistants and their colleagues; a lecture room; glass-blowing facilities and dark rooms; and temperature-controlled laboratories on first and third floors served by a vertical duct from below.

The building, generally, will be of reinforced concrete frame construction, with flat roof and concrete mullions between metal windows. Coloured vitreous enamel panels will appear beneath window sills and this treatment is to continue all round the main block.

A rising duct near the centre of the building will carry the pressurised cold water, de-mineralised cooling water, gas, compressed air and helium return piping systems in a single group to all floors. From the duct, the general horizontal runs

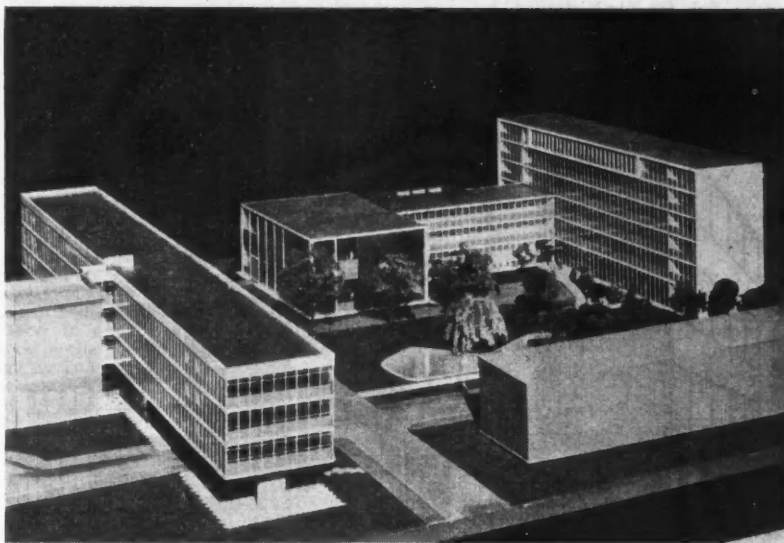
this portion of the main block, therefore, will incorporate radiant floor and ceiling heating.

A cooling tower of 8,500,000 B.Th.U.s per hour capacity will be erected at the rear of the building, and water from this will exchange heat with the de-mineralised water system to provide cooling for the large electromagnets.

All floors of this buildings will be served by two lifts, one passenger and one a heavy goods lift of 3-ton capacity.

Mechanical Working Laboratory

The Mechanical Working laboratory consists of a single-storey main metal-working laboratory at ground level, and a three-storey wing attached, containing three smaller working laboratories, one on each floor, with associated offices, etc. Calorifier and transformer chambers, plant



Model of the Autonomics and Basic Physics Buildings

will be along the ceiling voids above the central corridors which are to extend throughout the length of each floor. From these runs the appropriate services will be tee'd into each laboratory as required.

The electrical services will rise through vertical ducts at each end of the building and run horizontally in multi-compartment trunkings via service casings which extend, on the periphery of the building, through each laboratory. Spare compartments will be provided to enable temporary connections to be run easily and neatly for particular experiments.

With ventilation 11 constant-temperature rooms and one variable-temperature room (14 deg. F. to 100 deg. F.) have to be catered for. The constant-temperature rooms will be maintained, in most cases, to limits of plus or minus 1 deg. F. by individual room air conditioning units capable of cooling, heating, humidifying or de-humidifying, as required. The variable-temperature room is specially treated and has its own adjacent plant room. In addition, a dust-free laboratory will be provided with air conditioning plant designed to exclude all particles down to 1 micron in size.

The building is to be heated by a conventional low pressure hot water reverse/return accelerated system, but the library, with its large expanse of glass, needs to be treated differently and the design of

room and salt bath room are at ground level.

The large working laboratory will have a 2ft. 6in. diameter circular shaft approximately 33ft. below floor level to take extrusions from the press, and the floor area adjacent will have a special heat-resisting finish to take the hot metal rods which will be placed thereon immediately after production. The complicated engineering services of the upper laboratories are located within the floor depths on a grid layout to allow rigs to be set up in various positions for ready connection to the services.

When major re-development plans are put in hand in the distant future it is possible that a new road system will follow the removal of the N.P.L.s existing ship tank. It was decided, therefore, that the new metallurgy working laboratory should be of bolted steel construction with as many prefabricated parts as possible, so that the maximum recovery value would ensue if the building should one day have to be dismantled and removed to another site.

The steel frame will have asbestos-cement sheet cladding of various textures and pastel colours, with aluminium trim to quoins, eaves, etc. The north elevation and the plant room on the west elevation will have brick facings at ground floor level. All windows will be steel and the

floors of precast concrete units; the roof will be of asbestos decking.

Heating in this building will follow conventional lines, offices and general laboratories being served by a low pressure hot water system, heat exchanging with the medium pressure heating system which runs throughout the site.

Autonomics Building

Of particular interest in the Autonomics building is the computer room which will have a specially designed, removable suspended floor for easy access to the electrical services beneath it.

Other principal features in the design include the introduction of special resilient mountings to ensure maximum efficiency for a silent room which is a concrete structure within a concrete structure; also the utmost care given to the detailing of the animal house so as to achieve the highest possible standard of cleanliness. On the engineering side, a large amount of individual treatment is called for, especially in regard to the dust-free laboratories which comprise a suite in themselves, graduated in degree for cleanliness and humidity; and the psychological laboratories, and screened rooms, etc.

The building is planned to consist of a main six-storey laboratory wing running due east and west, a three-storey connecting link for administration, etc., run-

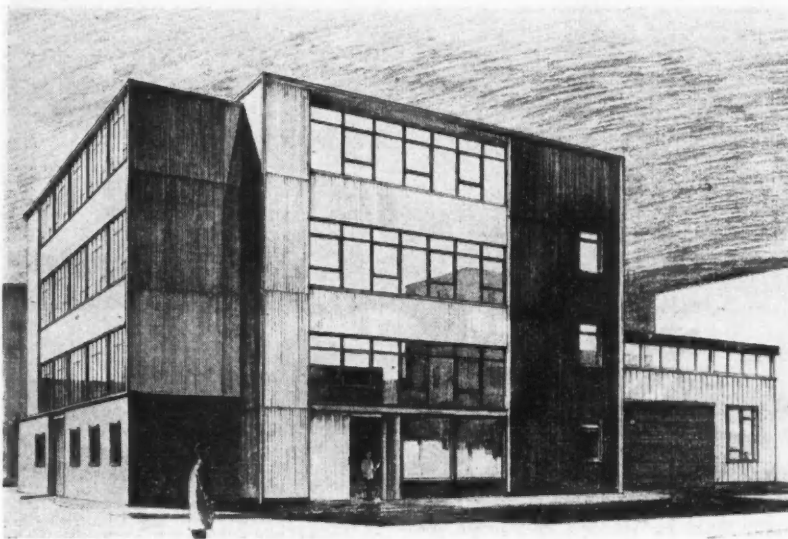
concrete frame with brick and precast concrete panels to gable walls. Storey height window units are to have coloured vitreous enamelled panels below sill level. Timber window frames, glazed down to floor level will be fitted for the library which adjoins the main entrance.

Main service runs within the building will be grouped in rising ducts connecting plant rooms on each floor. From the plant rooms horizontal runs will make use of ceiling voids above the central corridors and service casings on the periphery of the building to each laboratory, where the appropriate service will be tee'd off to terminate on each laboratory bench.

The animal house will be fully air-conditioned to provide constant temperature and humidity conditions throughout the year. Plenum ventilation will be used.

The cleanest and driest of the low humidity dust-free laboratories will be served by a plant capable of providing a dust-free air supply down to 0.1 micron and of maintaining an absolute humidity of 24 grains per pound in the room.

Heating will be by steel panel radiators also supplied with low pressure hot water using an accelerated reverse-return system. Embedded floor panel heating will be provided in the animal house, to supplement the plenum ventilation system there, and



Perspective drawing of Mechanical Working Laboratory

ning north and south, and a two-storey workshop situated between the Autonomics and Basic Physics blocks for the joint use of the two divisions.

The plan is based on a 4ft. grid and the design allows for the removal of partitions from one grid position to another as required. There will be a staircase and lift at each end of the six-storey wing, but the latter will not rise above fourth floor level, so dispensing with the need for the usual projections of motor rooms, etc., above the main roof level.

The ground floor of the laboratory wing will project forward on the north elevation to provide the larger size laboratories required at that level. On this floor will be located the computer room, the silent room, the neuro-physical laboratory and a storeroom from which the electronic component needs of the whole station will be met. The first floor is to contain general laboratory and office accommodation; the second, third and fourth floors will be devoted to laboratories and offices having specialised interests; the fifth floor will constitute the animal house for which all surfaces are designed for hosing down. Incinerator, cage cleaning and waste disposal apparatus will be provided so that no organic material will need to be brought down through the building.

The building will have a reinforced

this method is also to be introduced in the main entrance and library. The workshop will be heated by unit heaters fed directly from the medium pressure hot water supply, thermostatically controlled.

Designs and Contractors

The three buildings were designed for the D.S.I.R. by the chief architect's division and the chief engineer's division of the Ministry of Works. The superintending architect for all three schemes is Mr. H. A. Snow, A.R.I.B.A., and the superintending engineer is Mr. M. Woolfson, M.I.E.E.

The senior architect in charge of the Basic Physics building is Mr. O. P. Carver, A.R.I.B.A., and the senior architect in charge of the Autonomics building and the Mechanical Working laboratory is Mr. J. Moss, A.R.I.B.A. The Ministry of Works senior engineer for mechanical and engineering services in all three buildings is Mr. D. R. Orchard, B.Sc., A.M.I.Mech.E.

The Basic Physics building will cost about £375,000 to build and equip, the Autonomics block about £475,000 and the Mechanical Working laboratory £210,000.

Building contractors for the three schemes are: Basic Physics—James Carmichael (Contractors), Ltd.; Autonomics—Lavender McMillan (Contractors), Ltd.; and Mechanical Working laboratory—E. Gostling (Builders), Ltd.

SOME ALUMINIUM BUNGALOWS TO BE WRITTEN OFF

SOME detached aluminium bungalows erected between 1949 and 1951 which are suffering from corrosion are to be written off over the next 10 to 12 years, and studies are being made of the possibility of repairing corroded semi-detached aluminium bungalows at an economic cost.

A circular from the Ministry of Housing and Local Government to local authorities follows an investigation by the Ministry and the Building Research Station. There are 13,400 of the detached bungalows, owned by 173 local authorities in England and Wales, and just over 3,000 semi-detached bungalows owned by 52 authorities. The detached bungalows, which it was expected at the time would have a life of 60 years, were a development of the temporary aluminium bungalows built during the period of acute housing shortage immediately after the war.

Of the cause of the trouble the Ministry circular says, "the aluminium alloy used in the manufacture of the structural members of the bungalows was a high-strength, copper-contained variety. Experience has shown that this particular alloy is liable to a form of laminar corrosion which, once begun, spreads rapidly and ultimately destroys the metal."

A survey showed that nearly all the permanent aluminium bungalows are affected to some extent by corrosion, and a few of the detached type may need to be dealt with almost immediately. The integral construction of the detached type makes replacement of defective structural members impossible without dismantling the bungalow. Moreover, repairs to members now seen to be corroded would be nullified by further corrosion elsewhere. After close study of the problem, the Building Research Station have concluded that remedial treatment to ensure a full life of 60 years is impracticable.

Repairs Possible

The semi-detached bungalow is differently constructed. It contains much less aluminium and the effect of corrosion is less serious. It is comparatively easy in this form of structure to uncover and replace affected parts by non-corrodible materials. Local authorities are advised to await further advice from the Minister before attempting any repairs.

Councils who own detached bungalows are asked to submit a five-year phased programme of demolition of those worst affected. Priority in rehousing must be given to tenants before there is any danger of instability. Temporary aluminium bungalows may also be affected by corrosion, and councils are asked to plan for early vacation and removal of any of these in which corrosion has reached an advanced stage.

The Minister considers that local authorities should receive appropriate relief from the financial consequences of the premature deterioration of aluminium bungalows which they erected in expectation of a 60-year life, and that authorities generally should not be in a worse position than they would have been if the bungalows had been regarded as temporary in the first place. He is to take the earliest opportunity to introduce legislation to enable him to relieve local authorities of the outstanding capital debt on permanent bungalows which have to be demolished. This would be cancelled by direct repayment from the Exchequer to the Public Works Loan Board.

FRENCH CONTRACTORS AWARDED £385,688

In New Zealand, the chairman of the Southland Harbour Board has confirmed that the French contractors, Société Nationale Travaux Publics, have been awarded £385,688 against the Board. The company constructed the £4m. island harbour at Bluff and claimed £777,929 because they encountered "adverse physical conditions" unexpectedly.

SPECIALIST PLANNING DISCUSSED AT BUILDING ESTIMATORS' LONDON MEETING

"MANY other industries have already found the need for specialist planners and I think it would be both wrong and short-sighted for our industry to think that we were different from any others," stated Mr. W. Prior, planning engineer to a leading contractor, when he addressed a recent meeting of the London and Home Counties Region of the Institute of Building Estimators. "Originally, this meeting was to have been a discussion between two of your members as to whether there was a need for a specialist planning engineer, although both agreed on the need for planning," he said. "There is no doubt that both of these gentlemen would have made excellent planning engineers because it is by their combined efforts that I find myself—a mere planning engineer—speaking to you."

"To simplify things, I think that the discussion should be kept to the normal type of contract. Not the contract where there has been architect/builder collaboration; not the negotiated type of contract; not the all-in service contract; but the one which causes the estimator all the headaches. The one which has to be tendered for; where at tendering there is limited information—just a few $\frac{1}{2}$ in. scale drawings. The contract where even at planning time these $\frac{1}{2}$ in. scale drawings are all that are available, and where at the very first meeting you can see that the nominated sub-contractors and specialist suppliers are not tied up; the detailing is nowhere near as advanced as it should be, and there is a general haziness about the whole project. In other words, the normal contract."

"Not being an estimator I would not imagine myself qualified to put your case—and naturally I am biased—so I shall put your case quite briefly and with bias knowing full well that the discussion which should follow will be a great leveller."

Programme Preparation

"As I see it, in preparing a tender, the estimator must obviously look into the methods of operation and the timing of these operations, and to enable him to look at the contract not as a series of isolated operations, but as a whole, he must prepare a programme. In fact I will go so far in my capacity as a planning engineer to concede that an estimator does in fact do everything during the tendering stage that a planning engineer does during the pre-contract stage. On that basis one can argue that by putting a couple of coats of paint on the estimator's programme, the overall programme would then be fit for presentation to both the architect and to the site. That, very briefly, is the case for the estimator as I see it."

"Having put the case for the estimator, my next problem is how to put the case for the planning engineer with equal brevity. I thought first of the argument that started off this discussion, that because the estimator started planning, he should carry it through to the end. Logically, one could then argue that having prepared the estimate and done the planning, why should he not carry on and do the job, prepare the final account and then, presumably start the process all over again."

"On thinking this theme over a little longer I began to wonder who came first. I suppose some builder carried out a few jobs for himself and then prepared a few estimates for outside contracts, gradually getting so busy that he has to employ an estimator, and so the business of specialist people to do estimating was evolved."

"I had thought of developing my argument on these lines, but then I thought have we established just what we mean by planning? There are quite a number of types of planning—financial planning, policy planning, production planning and so on. I suppose that the one we are most

concerned with is production planning."

"Let me first give you a definition of production planning. It is in two parts. The first part reads 'It is the activities necessary to determine the best methods, quantities and dates of production.' As I have already conceded that this could well be done by the estimator, it might be a good thing if it were so. It would certainly give a clearer indication to the architect of our method of carrying out the work, based upon the information that was available at the tendering time."

"But if we stopped there, the overall programme that has been produced at that stage, no matter how well done, would wind up as so many of them do as just a pretty picture on the wall of the site office."

"Let us look at the second part of the definition: 'to ensure that these plans are achieved or else adjusted promptly so that they may be achieved.' I would suggest that these functions are in fact an almost continuous process. How can another technician who is working against time cope with them? What would happen when the overall programme starts to go wrong? as frequently happens, even with planning engineers preparing them. How are variation orders to be incorporated in the programme as and when they occur? As a contract progresses, more and better details are coming through which necessitates a change in the original plan. Then there is the question of programmes of co-ordination with heating and ventilating engineers, electricians and so on. Could an estimator in the middle of preparing a tender, hope to cope with these things?"

"I suppose the argument could be put up that this is the job of the agent or general foreman. This is a reasonably valid argument, but not really within the scope of this discussion although I do not intend to omit this issue altogether. I could argue that as in days gone by the builder had to call in the specialist estimator, so the day has now arrived when the builder, agent and general foreman need the help of the specialist planner."

"This question of specialists was well illustrated recently on television showing a new suspension bridge being built alongside an existing bridge with the engineer's name—"Brunel" written on it. When the engineer in charge was asked by the interviewer whose name was going on this bridge, he replied that there would be no name as the number of different types of specialist engineers were so many."

"I suppose one could argue that somewhere along the line we have made a retrograde step since individualists such as Brunel no longer design bridges. It could be further argued and probably with greater strength that the generation that has produced a man in space should be able to produce a man equal to Brunel, or is it just that the age of specialisation is with us."

Discussion

In the ensuing discussion Mr. Mudd said that planning was common sense. An estimator had got to prepare a plan and how detailed this was depended on the type of job for which he is tendering. For a precast frame building it was his experience that the tender was prepared with greater accuracy with the aid of the planning department as obviously planners could give more details of plant, etc. He thought an estimator was not an estimator unless he prepared a logical sequence for the job and so prepared a programme."

Mr. Prior: More specialists do not increase overheads. The building industry has a small overhead content and it is time the industry increased overheads in order to increase productivity."

The chairman, Mr. L. J. Bradshaw: There seems to be a question as to whether the estimator should alone prepare a plan during the preparation of the tender, or

should the planning department enter into the picture at the estimating stage?

Mr. Tymis: I think it depends on what you are pricing. I should say planning enters far more into civil engineering than into building. Brickwork is a unit rate depending on height, but with a tunnel, ground type, distance, water table, etc., make it essential to plan at the estimating stage. Therefore, the distinction between building and ground work and civil engineering is essentially between planning and estimating."

Mr. Layton: Planning nowadays is similar to before the war when the same job carried out by the site agent and the contracts manager. I do not think that present day planning is more accurate."

Mr. Prior: I do not think planning in the building industry has reached the stage of specialisation that it will do later, but I am confident that it will be very highly specialised in the not too distant future."

Mr. Tymis: I am convinced that planning should come within the compass of the estimator preparing the tender. Even if planning reaches a highly specialised state, the planning officer does not know the time content in an estimate until the estimator has actually included it in the estimate. With regard to a precast concrete frame, you cannot guess the time to erect it. You have to pass the arithmetical content right through to estimate the erection time. If the estimator has allowed some time and it is not sufficient for existing plant, then you merely have to duplicate some plant."

Mr. McKeill: The question here seems to be, does one calculate time and fit the estimate to the building or price it and fit the price to the job?

Mr. Brind: I cannot see that three weeks is sufficient time to plan a precast concrete job; so you cannot estimate the time."

Mr. Tymis: This is a matter of basic experience."

Mr. Prior: Perhaps production engineer would be a better description. For instance, programmes can be rephased if a sub-contractor lets you down to ensure that the job goes ahead to arrive at the final result which is to finish the job on time. Planning staff are necessary to ensure that the estimator's planned time is adhered to."

Type of Plant

The Chairman: Should the planning officer decide the type of plant to be used on the job?

Mr. Prior: No one person should decide on plant. Building is a team job and each person should put forward his views and this knowledge co-ordinated by the planning engineer. After giving due consideration to the available advice it is the job of the manager in charge to make the final decision."

Mr. Groome: If you have faith in the estimator to decide these matters, then you must adhere to his decision."

Mr. Prior: I say it is the manager's job to make the final decision."

Mr. Groome: Yes, subject to the fact that the job goes as planned. An estimator should be able to say certain plant should do so and so, or not be worth his position."

Mr. Tymis: Naturally. In order to make a good estimator, he must have done time as contracts manager and surveyor."

Mr. Prior: The contracts manager is, literally, the manager."

Mr. Tymis: The estimator should be allowed to prepare and estimate regardless of other departments."

Mr. Kingsbury: Does the planner have to take into account availability of labour or must he ignore that point."

Mr. Prior: The planning engineer must obviously be able to take this into account."

Following the discussion a vote of thanks to Mr. Prior was proposed by the vice-chairman, Mr. Hinxman."

Men and Movements

LAST Thursday saw the installation of **Mr. F. R. Bullen, M. I. C. E.**, M.I.Struct.E., as President of the Institution of Structural Engineers for 1961-62. He is senior partner of F. R. Bullen and Partners, Westminster. Mr. Bullen gained practical engineering experience with John Mowlem and Co., Ltd., whom he joined in 1928. During the war he was responsible for the design and construction of the civil and structural works of the Pluto scheme at Tilbury and for the construction of jetties, dolphins and landing hards along the South Coast. He set up in practice as a consulting engineer in 1944, specialising in foundation works. Mr. Bullen's connection with the Structuralists began in 1939, when he was elected an associate member. He became a full member in 1948 and was elected to the Council the following year. He is a member of the Institution of Civil Engineers, the Association of Consulting Engineers and a Fellow of the Royal Society of Arts.

Five new appointments have been made by Barbour Index, Ltd., arising from the growth of their information service to architects. They are: **Mr. Malcolm Quantrill**, for research on certain aspects of building information problems and its subsequent practical application; **Mr. G. M. Russell** and **Mr. D. M. Woolmer**, for liaison duties with the manufacturers' department; **Mr. M. Warner-Horne**, for liaison duties with the architects' department; and **Mr. J. R. Higgins**, as manager of the enlarged field service team.

Mr. E. J. Hancock has joined W. C. Youngman, Ltd., on the sales staff of their contractors' plant division. He was previously with Hall and Co., Ltd.

Mr. G. Smart has been appointed the first building products technical representative of James Booth Aluminium, Ltd., as part of the company's new technical advisory service to architects and builders, etc. He will operate from the London office at 50 Brook Street, W.1.

Mr. R. A. Lovell, chief mechanical engineer at the Ministry of Transport will retire in December. He will be succeeded by **Mr. H. Perring**, at present assistant chief engineer.

Mr. J. Kenyon has resigned from the board and the managing directorship of Pavior Construction Co., Ltd., and now has no further connection with the company.

Mr. K. D. Grosse has arrived in Britain to take up his position as engine representative for Caterpillar Tractor Co., Ltd. He succeeds **Mr. B. R. Shelley**, Caterpillar's engine representative in U.K. for the past two years, who has returned to the United States to take up a position with the parent company. Mr. Grosse worked with contracting firms before joining Caterpillar in 1955, and since then has spent most of his time in Europe. His first appointment was as a field engineer in the Scandinavian countries, and he also served in this capacity in Belgium, France and the Netherlands before being appointed engine representative for Europe in 1960. Working from the London office, Mr. Grosse will be assisted by **Mr. W. P. Young** in promoting the complete line of Caterpillar industrial and marine diesel engines and diesel electric sets.



K. D. GROSSE

Mr. Grosse will be assisted by **Mr. W. P. Young** in promoting the complete line of Caterpillar industrial and marine diesel engines and diesel electric sets.

Mr. J. H. Fletcher has accepted the post of senior assistant engineer to the Lugg Internal Drainage Board.

Three additional directors have been appointed to the board of Taylor Woodrow, Ltd., the parent company of the Taylor Woodrow Group. They are **Mr. Norman F. H. W. D'Arcy**, of Norman D'Arcy and Associates, Ltd., investment bankers, and **Mr. R. G. Heasman** and **Mr. Harold McCue**, both long service members of the group. Mr. D'Arcy has been associated with Taylor Woodrow for some years, particularly in Canada, where he is a director of Monarch Investments, Ltd., a Taylor Woodrow subsidiary. Among other offices, Mr. D'Arcy is managing director of the Locana Corporation, Ltd., chairman of the Btrust Investment Corporation, Ltd., and a director of McIntyre Porcupine Mines, Ltd. Mr. McCue, who



N. F. H. W. D'ARCY



H. MCCUE



R. G. HEASMAN

joined Taylor Woodrow in 1940, is chairman of Taylor Woodrow (Building Exports), Ltd., one of the sponsors of the Arcon Development Group, and is also chairman of Taylor Woodrow (Arcon), Ltd., and of Taylor Woodrow Industrial Estates, Ltd. Mr. Heasman joined Taylor Woodrow in 1936, and for many years has been chief accountant. He is a director of several companies in the group, including Taylor Woodrow Construction, Ltd., and was recently appointed deputy chairman of Myton, Ltd. Since 1957, Mr. Heasman has also been secretary of Taylor Woodrow, Ltd., and in this position he is succeeded by **Mr. Robson Christie**, the assistant secretary.

The appointment of **Mr. M. R. Steward** as general manager is announced by Coates Bros. Paints, Ltd. Mr. Steward joined Coates Bros. and Co., Ltd., the parent company, in 1959, as a graduate trainee manager, and following technical training in their resin research laboratory at Machen, South Wales, and in the paint formulation and metal coatings sections at St. Mary Cray and Sidcup, was appointed production manager at Sidcup, and later assistant general manager.

Midlands Electricity Board have appointed **Mr. R. Mallet**, at present manager of the Board's Worcestershire area, as chief engineer, to succeed **Mr. G. S. Buckingham**, who becomes deputy chairman next January. Following the establishment of the M.E.B. in 1948, Mr. Mallet joined the engineering staff at their headquarters and was appointed chief assistant engineer in October, 1948, and deputy chief engineer the following year. He was appointed manager of the Worcestershire area in June, 1951.

After 22 years with The Villiers Engineering Co., Ltd., **Mr. Frank Anstey**, B.Sc.(Eng.), M.I.Mech.E., has retired from his position as chief engineer at the Wolverhampton factory, but his services are being retained as technical adviser to the group. He is succeeded as chief engineer by **Mr. Frank W. May**, A.M.I.Mech.E., M.S.A.E., who has been his principal assistant during the past four years.

Western hemisphere sales manager since 1959, **Mr. Harold L. Lomax**, B.A., has been appointed assistant export manager with the firm. **Mr. Francis Jones** becomes managing director of Robert Harris, Ltd., the metal pressings division of the Villiers group of companies.

Mr. A. Frank Gibson, C.M.I.W.Sc., technical representative of Wm. Gimson and Sons, Ltd., is now covering the west Midlands area. Mr. Gibson, who will operate from head office at Swan Lake Mill, Leicester, has had long experience of all branches in the timber trade and is a lecturer on timber technology.

Brantley Drilling (Overseas) Co., Ltd., have changed their name to H.L.S. (Plant), Ltd., and will concern themselves with earth moving and plant hire, etc., from Thornwood Common, Epping, Essex. **Mr. J. A. Baker**, who until recently was contracts manager with Sam Booth, Ltd., has been appointed general manager of the new company.

Mr. E. T. Judge, deputy chairman of Dorman Long and Co., Ltd., has become chairman in succession to the late Sir Ellis Hunter. He also becomes chairman of Dorman Long (Steel), Ltd., and will continue as managing director of that company.

Newcomer to the board of Tecalemit, Ltd., is **Mr. T. C. Worth**.

Mr. W. T. Souter has been installed as president of The Illuminating Engineering Society for the 1961-62 session. Mr. Souter is a joint managing director of Holophane, Ltd. He joined the company in 1923, became general sales manager in 1945, and was appointed to the board of directors in 1949. He joined the Society in 1924 and has served on the I.E.S. Council and on several of the standing committees.

Mr. Alexander Johnston has been made public relations manager to Bristol Siddeley Engines, Ltd., where he will assume overall responsibility for press relations, advertising, exhibitions, films and the Bristol Siddeley Journal. From 1955 to 1961 he was press officer and then head of the information department of the Society of British Aircraft Constructors.

Seen boarding their plane at London Airport are (right) **Mr. J. F. Carroll**, service manager of International Harvester, Co.,



of Great Britain, Ltd., and **Mr. M. Reyner**, also of the company. They were leaving for a three-week tour of Scandinavia to review the technical performance of British IH products in Norway, Sweden, Finland and Denmark.

CAUSES OF ACCIDENTS ON CONSTRUCTION SITES

From a Correspondent

THE 1960 Report of the Chief Inspector of Factories contains much detailed information about causes of accidents on construction work. It is useful to consider this information under three headings. First, the nature of the work that appears to be the most hazardous. Second, the accidents which give rise to most fatalities. And third, the accidents which although not necessarily fatal occur most frequently.

Under the first heading, industrial work gives most cause for concern. Nearly 50 per cent. of the deaths on building operations occur during the construction, maintenance or demolition of industrial buildings. Such work, of course, involves a much smaller percentage of the labour force. Commercial and public buildings also give rise to numerous fatalities. And it is surprising to note the relatively high number of fatalities on the maintenance of dwelling houses, presumably due to inadequate scaffolding during such operations.

Demolition works generally seem to involve a disproportionate share of fatalities, rather more of these occurring because of falls of materials rather than falls of the demolition workers themselves. In civil engineering, pipeline and sewer work gives rise to the greatest number of fatalities coupled with work on roads or airfields.

Height Hazards

More can be said about the actual causes of fatal accidents. They group as follows:

Persons falling from heights ...	153
Materials falling from heights ...	28
Excavations, tunnels ...	22
Lifting appliances ...	12
Non-rail transport ...	26
Electricity ...	15
Other ...	21
Total ...	277

This table underlines the serious hazards involved in working at heights. Work on roofs is the greatest single hazard. Men either fall through fragile roofing materials

or fall from sloping roofs. Scaffolds come next and many accidents occur during the erection, alteration or dismantling of scaffolds. There are also a considerable number of fatal falls from ladders.

The greatest single number of falls of materials giving rise to fatalities occur from building structures under demolition. All these falls underline the importance of positioning men so that they are not liable to be hit by falling materials and of providing some form of overhead protection. The need for toe boards to scaffolds and for the wearing of safety helmets is also clear.

Safety helmets would also prevent a number of fatalities caused during work in excavations or tunnels where men are struck by falling materials. But in both these operations the greatest number of fatalities occurs when men are buried by a fall of material.

Lifting

A great deal could be said about fatalities caused by lifting appliances. Many are caused by men being struck by loads or slings. It is essential that lifting appliances should be operated carefully and that care should be taken during assembly and dismantling.

The increasing use of mechanical transport on site is giving rise to an increasing number of fatalities where men are struck by moving vehicles. The remedy here is to establish a definite traffic pattern on the site and to position the plant and the men so that the men cannot be struck by the plant. Particular care needs to be taken where lorries are reversing.

Electrical Hazards

Electricity continues to claim its victims. There are still accidents caused by jibs coming into contact with overhead lines and the danger of pneumatic tools striking underground power cables is a hazard which is being dealt with under the new construction regulations. Electricity is a killer and it must be treated with respect. Voltages to hand tools should be transformed down, and the tools them-

selves expertly wired up and earthed.

There are groups of accidents which although large do not give rise to fatalities. Accidents caused by stepping on or striking against objects is one of them. There are six such accidents every working day and half of them could be prevented by the simple precaution of denailing timber. Hand tools give rise to even more accidents and the vast majority of these occur through the use, or rather misuse, of such things as hammers, chisels, saws and other manually operated tools. Defective equipment also causes many accidents.

Powered machinery causes a considerable number of accidents, some of which are fatal. Indeed most, but not all, of the major causes of fatal accidents also give rise to many non-fatal accidents. Falls of persons account for the greatest number of accidents of all and a large proportion of them occur on the flat. These accidents underline the need for site tidiness, particularly the removal of debris which can trip men up and of slippery surfaces which can cause them to slip.

Manual Handling

A special word should be said about the need for a better understanding of the proper way to lift and carry in the industry. In industry generally the manual handling of goods and materials is by far the largest single cause of accidents. Its importance in construction although not known precisely, is also great. Most of the accidents occur because men do not get a proper grip on materials and drop them on their own feet or lift wrongly and strain themselves. Many such accidents arise during loading or unloading operations.

The Factory Inspector's Report makes two points. It draws attention to the important aspect of fatigue in manhandling and points out that a workman who is tired does not see, hear, understand or act with his usual speed and judgment and an accident can happen before he can act to prevent it. It is significant that many of the falls of persons occur when materials are being carried. Secondly it points to the need for the provision of good working conditions and observance of safe practices where manual handling of goods and materials is being carried out. The Factory Inspectorate have produced both a booklet and wall sheet on lifting and carrying, copies of which may be obtained from H.M. Stationery Office, price 1s. each.

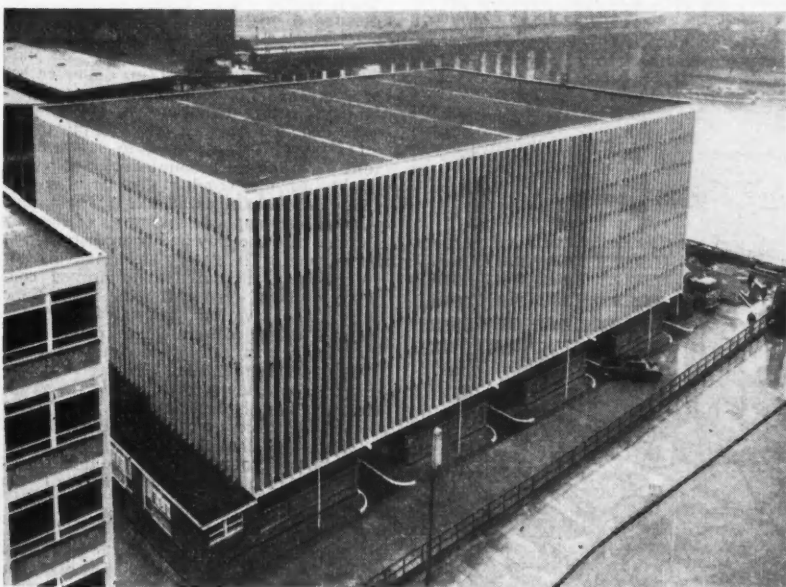
HOUSING GROUP COMPETITION PROVES POPULAR

Response to the Housing Group Design Competition, sponsored jointly by the Royal Institute of British Architects and the "Ideal Home" magazine, has been such that further printing of the conditions and entry forms has been necessary. Some 400 applications had been received by the end of September.

The competition involves the design of several types of dwelling and planning the lay-out of one or two 4½-acre sites. Two first premiums of £1,000 are offered, in addition to the R.I.B.A. scale fees payable to the winning architects when the sites at Harlow and Stockport are developed. January 2, 1962, is the last date for submitting designs which will be assessed by Sir Basil Spence, Mr. Donald Gibson and Mr. G. Grenfell Baines. Conditions are obtainable from "Ideal Home" Design Competition Office, 5th Floor, 96 Long Acre, London, W.C.2.

BITUMINOUS ROADS DEVELOPMENT GROUP

The Committee of Management of the Bituminous Roads Development Group has issued a statement to the effect that the Group, having fulfilled the purpose for which it was formed, has been dissolved and wound up as from September 30, 1961. Its functions have been absorbed by the three constituent members, the Asphalt Roads Association, the Federation of Coated Macadam Industries and the Road Bitumen Association.



The Zidpark multi-storey automatic car park, recently opened at the junction of Southwark Bridge and Upper Thames Street by the Lord Mayor of London, will house 464 cars, and includes a petrol filling station. With a main structure of steel, the sides of the structure consist of V-shaped vertical fins of plastic-coated steel 20in. apart, and from arrival of a car on the ground floor parking is fully automatic by means of roller conveyors and lifts. The building, which was erected by Myton, Ltd., has been leased to Total Oil Products (G.B.), Ltd. C. Edmund Wilford and Son were the architects

Talking of Safety

by
"DRAGEE"

OCCASIONALLY, accidents of a certain type seem to come along like bananas—in bunches. For weeks on end we may be busily recording sprained ankles, strained backs, dislocated thumb joints, slipped discs and all the other maladies in the great family of twists, jerks and wrenches. Frantic messages go out to the sites; appeals such as "Please find out what is happening on your job", or, "Tell the foremen to watch out for men lifting excessive loads", and, "See that your men get instruction in manual handling". Or, more ominously, the telegram which says: "General manager concerned to note increasing numbers of sprains and strains on your site stop please submit immediately full report with details of preventive action taken". The last time a telegram like that went out (despite a joint protest by the Chief Engineer and myself) the site agent was suddenly struck down by a fever of a recurrent type acquired in the tropics, and by the time he had recovered, the site was trying to cope with a spate of "falls of objects".

That, of course, is the awful thing about this business. After a concentrated drive—with or without the culminating telegram—the surging pressure of sprains and strains dies away, and we begin to congratulate each other. But deep down we know that our efforts have had little, if anything, to do with the improvement. They are like the spells and incantations of the witch-doctors which operate on the principle that in accordance with the law of averages, things will sort themselves out in the course of time.

"Ah," say my statistically-minded brethren, "but a run of accidents of a particular type indicates something amiss on the job. You have only to analyse them, and you'll see what's wrong."

"No doubt," I reply, "but unfortunately for your scheme these accidents are happening on several jobs, all at the same time."

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

They come right back at me. "Okay. Then let's look for wider causes, affecting all the jobs. What about the weather?"

"No good," I tell them. "These accidents are happening in full sunshine as well as at the places where they're baling the floodwater out of the bedrooms."

"What about the type of work? Any similarity there?"

We go through the records.

"Um-m-m. Not really. Two blocks of flats. An extension to a dry dock. Repairs to a grain silo—doesn't help." They go away, slightly baffled, taking the records with them. Next day they are back again.

"Easy, really," they say. "You've had an influx of new labour on each of those jobs. Not one of the injured men is used to this kind of work. Naturally, after a month they've settled down and this type of accident dies away to its normal frequency."

So that's it. Perhaps it sounds rather too glib, but we don't take any chances. A memorandum goes out to all the sites where they are adding rapidly to their labour force—particularly foreign workers.

Some time ago we had a sudden outbreak of ladder accidents. I saw it developing, and I started to keep a special record. I was going to look for the common factor, but this is what I found:

One man missed his footing half-way up and slid down to the ground. Another man trod on a broken rung near the base. A labourer was shouldering a couple of asbestos sheets up a ladder when the wind caught the sheets and flung them to the ground. A carpenter coming down a ladder put his foot where a rung should have been. An erector fell with a ladder which overturned at the top. A fitter went down with his ladder when the foot slipped outwards on a polished floor. A ladder broke when three men attempted to use it all together. Another ladder broke when it was being used as a bridge between two platforms. A painter fell from a ladder which overturned while he was reaching out with the brush, and another fell from his ladder because a weak stile gave way. A fitter made a trestle with two ladders lashed together, and then used the trestle to support a set of chain blocks. When he

started to lift a load the rig collapsed on top of him.

There were about fifteen other cases; some simple, some complicated. Sitting back and looking at this fearsome plague of ladder accidents, which was spread over a matter of some six months and about forty major contracts, I felt that something rather more positive than the law of averages was at work. Not only at work, but labouring so hard you could hear its heavy breathing. But, of course, there was nothing to it. Nothing you could point a finger at and say: "That's the cause. Now let's get to work and put an end to it."

On our site accident report forms there is the question: "What have you done to prevent a recurrence?" And the favourite answer is "Told men to be more careful." This usually goes back for reconsideration and more constructive thinking. But just once in a while we have to admit that we can't suggest anything better.

(Concluded from page 1815)

1867) the architect of the early 19th century, when preparing the foundations of the General Post Office at St. Martin's-le-Grand stated that he had to cover the whole site 'where a greater diversity of subsoil was never before exposed to view.'

"The so-called uniform London clay has been found to contain wide variations in its quality, and often down to depths of 70ft. it has been found to have been disturbed. Some months ago when boring piles in London clay 110ft. deep, a nautilus was found in one pile at a depth of 60ft. and a pier of pyritised wood in another pile at a depth of 90ft."

Piling

The history of piles and piling formed a further major section of the Presidential Address. Within the past 150 years, Mr. Bullen commented, many formulae had been put forward for calculating the bearing capacity of a pile. Today discussion centred around the relative amounts of support achieved by the toe and the sides of the pile.

"A recent and very successful application of bored piling has taken place at a site in Mayfair, London," he said. "The site is to be occupied by a multi-storey garage building and lies between existing buildings of some age, perhaps 200 years. The foundations of these buildings are near the ground surface, and on one side the buildings are some 90ft. high and the foundations are loaded to about 14 tons/ft. run. In order to excavate to depths of as much as 25ft. below these footings, it was decided to instal around the perimeter of the site and as close as possible to the adjoining buildings cast-in-situ bored piles. These, generally, were 17in. diameter but to carry heavy column loads occurring at intervals 24in. diameter cast-in-situ piles were installed amongst the 17in. piles. The large piles were designed to support 120 tons each and on account of the disturbed quality of the London clay at this site, the piles had to be 110ft. long. The normal triaxial tests applied to samples of the clay showed that the clay had been disturbed at some time in its history and relatively low values were measured. Reinforced concrete walings were cast against all these piles as excavation proceeded, and the walings and piles were then strutted apart by using precast reinforced concrete struts. The struts were loaded positively to pre-determined calculated forces by the insertion of 'flat' hydraulic jacks. By these means, the forces on the struts could always be kept large enough to prevent any movement of the ground outside the bored piles thus preventing any settlement of the adjoining buildings."

Sure Foundation

"Foundation Engineering," said Mr. Bullen in conclusion, "is as old as man, but basic progress has been made only during the last 100 years or so." He recommended a study of the history of the techniques involved so that in the words of the Institution's motto, the structural engineer might ensure that he was "Always on a Sure Foundation."



Tea will now be taken on the job!

"SAW TOOTH" MULTI-STOREY PARKING GARAGE FOR MAIDSTONE

From A Correspondent

A NEW type of multi-storey parking garage is being constructed at the intersection of Medway Street and Fairmeadow in Maidstone, Kent, for the Borough Council.

The building is being erected on the site of a surface car park situated in the town centre and it will have a frontage to a proposed Inner Ring Road enclosing the central area.

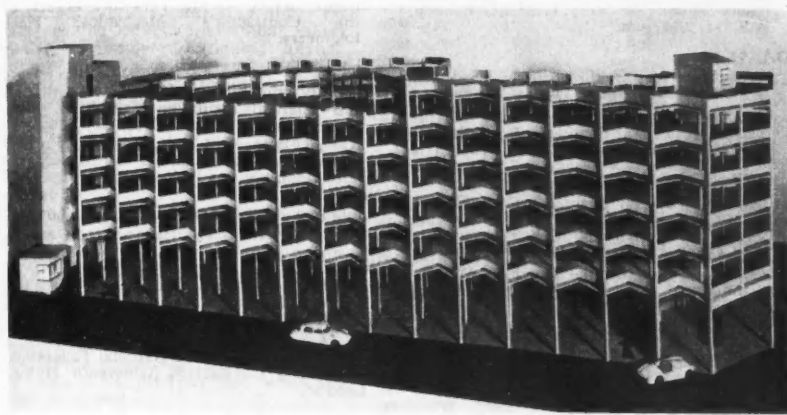
The dimensions are 197ft. long by 80ft. wide by approximately 57ft. high to the roof. Four upper floors and the roof will be used for parking 272 customer parked cars. With the exception of the space taken by ramps and other facilities in connection with the car park, the whole of the

area per car is 252 sq. ft. giving an efficiency of 51 per cent.

The main elevations are saw-tooth on plan. The arrangement of supporting columns is such that they define the parking bays and together with the layout of the car park floors impose a discipline on the user so that he cannot obstruct other parking bays. At each end of the building there is a staircase to ground floor and at one end there is a 10-passenger lift with toilet and ticket office accommodation at ground level adjacent to the entrance.

External Cladding

The external cladding will consist of precast reinforced concrete barrier panels with exposed aggregate to the outer faces.



Model of multi-storey car park, Maidstone

ground floor will be available for letting as a petrol service station and/or shops.

The structure is of reinforced concrete throughout and the parking system is based on two continuous ramps, one for ascending and the other for descending traffic, with points of intersection at each floor level to enable traffic to transfer from "IN" ramp to "OUT" ramp at any level.

The garage is designed with bays at 45 degrees on either side of the access lane, this giving the most economical method of parking on the restricted width of site. Bays are 16ft. long by 8ft. wide with an area of 128 sq. ft. per car. The gross floor

The ramps are of flat slab design giving an unobstructed soffit with a clear floor to ceiling height of 8ft. The exposed portions of the ramps on the roof will be electrically heated.

The construction period is nine months and the cost per car will be approximately £380.

The scheme was devised by Sir Robert McAlpine and Sons, Ltd., who are also responsible for the structural design and the work is being carried out under the supervision of Mr. Robert Orrell, A.M.I.C.E., A.M.I.Mun.E., A.M.T.P.I., borough engineer, Maidstone.

HIGHER STANDARDS OF ILLUMINATION

IN his presidential address at a meeting of the Illuminating Engineering Society in London this week, Mr. W. T. Souter said that during the greater part of the last 50 years the Society had been concerned with the attainment of higher standards of illumination, but that the achievements of the lighting industry and the wider recognition of the benefits of good lighting had now created the situation in which higher values could be obtained and economically justified.

Quality of lighting and the avoidance of glare was now the main pre-occupation of the lighting engineer and the work which had been incorporated in the new Code must now be consolidated by further studies and field work, he said. The present trend of increasing illumination levels was bound to continue and as levels increased so would problems of quality control in lighting become more acute; reflected glare, for example, was already becoming troublesome and was now being studied by the Technical Committee.

The wider problem of general brightness

patterns was also being studied though it might be some years before a satisfactory and convenient technique was evolved which would enable lighting engineers to design the most suitable brightness values in all the areas of a room which together comprised the visual field.

The integration of the lighting equipment with other essential services and features of modern building design also involved many practical problems. The lighting engineer and designer must in the future keep abreast of developments in all building services including heating, ventilation and acoustics and the I.E.S. Technical Committee was well aware of the need to promote opportunities for discussion and interchange of ideas between the specialists in these fields.

Concluding his address, Mr. Souter said that the past work of the Society had had a powerful influence in the growth and prosperity of the lighting industry and, given the necessary support, the Society would continue to have such beneficial influence.

NEW BULL RING BRIDGE ERECTED IN 34 HOURS

A HIGH-SPEED lifting operation was carried out at Birmingham during last weekend, when a 150ft. structural steel bridge was erected over the Inner Ring Road between 8 p.m. Saturday and 6 a.m. on Monday.

The bridge, at the eastern end of Smallbrook Ringway, will link the sites of the planned department store block, to adjoin New Street Station, with the main part of the Bull Ring multi-level shopping centre, now being built by John Laing Construction, Ltd.

Although it is likely to be a few months before the steel framework of the bridge will have any obvious connection with the £5m. Bull Ring Centre project, it will eventually be built into the new buildings on either side of the Inner Ring Road as work progresses. The bridge will ultimately accommodate a covered shopping mall linking the two parts of the scheme.

A carefully timed hour-by-hour construction schedule, involving the closure of alternate carriageways of the Inner Ring Road during the operation, was devised to minimise inconvenience to traffic. The main bridge beams are formed by six massive steel girders, 75ft. long, 17ft. 9in. high and 3ft. wide, each weighing over 50 tons. These girders were hoisted into parallel positions—three above each carriageway of the Inner Ring Road.

They were supported at either end by recently erected steel stanchions founded in reinforced concrete, meeting at the centre line of the bridge on temporary trestles and supporting structures, which will later be removed to give the 150ft. clear span. The finished bridge is 79ft. in width and 42ft. 6in. high, with an average clearance above road level of 22ft. 6in. Ultimately the elevations of the covered bridge will incorporate attractive light stone bands at top and bottom, with large floor-to-ceiling observation windows.

The lifting operation was carried out by one of Britain's largest lorry-mounted mobile cranes: the 60-ton capacity "Valiant" which is 40ft. long, 12ft. wide and has a 60ft. jib. The crane arrived on site at 5 p.m. on October 7 and the first main girder was hoisted into position at 11 p.m. that evening. A 12½-ton capacity mobile crane with an 80ft. job was also used for the concurrent fixing of floor and roof beams to stabilise the main structure.

Bull Ring Centre

Over 300 men are now engaged on the Bull Ring Centre project and work on the sub-structure in the 40ft. deep excavation is well advanced. When completed in the autumn of 1963 the centre, which occupies a total site area of about four acres between St. Martin's Church and New Street Station, will be one of the most advanced comprehensive trading centres in Europe.

The centre, completely air-conditioned, will include 350,000 sq. ft. of retail shopping space in 140 shopping units, department stores, supermarkets, a general retail market 36,000 sq. ft. in area and a separate fish market of 14,000 sq. ft. An important feature is one of the country's largest branches of F. W. Woolworth and Co., Ltd., with access at all shopping levels.

There will also be restaurants and coffee bars, licensed premises, banks, a baby creche and pram park, multi-storey car park, a new central Midland Red bus station and a seven-storey office and management block. Facilities for entertainment and recreation, including banqueting rooms, will be featured within the scheme.

The new bridge was designed by the chief civil engineer's department of John Laing and Son, Ltd., in association with Septimus Willis, M.I.C.E., M.I.Struct.E., consulting engineer. Steelwork was specially manufactured at Scunthorpe by the United Steel Structural Co., Ltd., and the sub-contractors for erection of the bridge are Carter-Horseley (Engineers), Ltd.

Architects for the Bull Ring Centre are S. Greenwood, A.R.I.B.A., in association with T. J. Hirst, A.R.I.B.A., A.M.T.P.I.

FOR THE DIARY

Oct. 12

Institution of Civil Engineers, Great George Street, London, S.W.1. "Some Developments in the Activated Sludge Process", by J. McNicholas.

Oct. 17

Institution of Civil Engineers, Great George Street, London, S.W.1. "The Narrows Bridge—Perth, Western Australia", by J. W. Baxter, E. M. Birkett and E. W. H. Gifford. Meeting of the Western branch of the Contractors Mechanical Plant Engineers, Royal Hotel, College Green, Bristol 7.30 p.m.

Oct. 18

Forty-sixth International Motor Exhibition, Earls Court, London, Oct. 18-28.

Meeting of the Reinforced Concrete Association at R.I.B.A., Portland Place, W.1. 6 p.m. "Tropical Architecture: The Development of Reinforced Concrete in West Africa," by E. Maxwell Fry, C.B.E., F.R.I.B.A.

Oct. 19

Annual dinner of the Institution of Mechanical Engineers, Dorchester Hotel, London.

Institution of Civil Engineers, Great George Street, London, S.W.1. Informal discussion on "Sewage Disposal at Coastal Towns", introduced by W. P. Haldane.

Oct. 20

Autumn meeting of the Scottish Branch of the Institution of Municipal Engineers at Stirling, Oct. 20-21.

Meeting of the Midlands branch of the Contractors' Mechanical Plant Engineers, Wilson Arms, Knowle, 7.30 p.m. "Safety Precautions on Building Contracts," by P. H. Bott, C. Bryant and Son, Ltd.

Annual dinner of the Yorkshire Federation of Building Trades Employers, Queens Hotel, Leeds.

Autumn general meeting of the Southern Counties Federation of Building Trades Employers, Connaught Rooms, London, 10.30 a.m.

Annual dinner of the Merseyside and North Wales branch of the Institution of Plant Engineers, The Blossoms, Chester.

Oct. 24

Institution of Civil Engineers, Great George Street, London, S.W.1. "New Premises for the North Thames Gas Board, Fulham", by A. J. Leggatt and J. Bobrowski.

Oct. 25

Meeting of the Institution of Mechanical Engineers, 1 Birdcage Walk, Westminster, London, S.W.1. Presidential Address.

National Conference of the Town and Country Planning Association, Church House, Westminster. "Inquiry into Planning," Oct. 25-26.

Oct. 26

Institution of Civil Engineers, Great George Street, London, S.W.1. Traffic Engineering Group discussion on "Practical Traffic Surveys", introduced by B. L. Allen.

Oct. 27

Meeting of North West branch of the Contractors Mechanical Plant Engineers. Visit to Shell Refinery, Stanlow, Cheshire.

Meeting of the Birmingham branch of the Institution of Plant Engineers, Imperial Hotel, Birmingham, 7.30 p.m. "High Pressure Hot Water Heating," by P. Marshall and K. J. Luntley.

L.M.B.A. Golfing Society Dinner, Savoy Hotel.

Oct. 28

Annual general meeting of the Institute of Building Estimators at the Kensington Palace Hotel, De Vere Gardens, London, W.8, at 2.30 p.m.

Oct. 31

Annual dinner of the British Road Tar Association, Grosvenor House, London.

Meeting of the London branch of the Institution of Plant Engineers, Royal Society of Arts, 7. p.m. "Tower Cranes—Their Use in Multi-storey Construction," by A. G. Stone.

Institution of Civil Engineers, Great George Street, London, S.W.1. "Western Avenue, Lagos: The Design and Construction of a Soil Cement Pavement", by C. M. Johnston. L.M.B.A. lecture on the Common Market, at the Royal Institution of Chartered Surveyors, at 6.30 p.m.

Nov. 1

Annual dinner and dance of the Federation of Registered House-Builders at the Mayfair Hotel, London, W.1.

Meeting of North West branch of the Contractors Mechanical Plant Engineers, "Landfall", Canning Dock, Liverpool, 9 p.m. Film show and talk "Lubricants".

Nov. 2

Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. 7.30 p.m.

The House-Builders Conference at the Connaught Rooms, London, W.C.2.

Institution of Civil Engineers, Great George Street, London, S.W.1. Informal discussion on "Foundation Design and Construction", introduced by D. J. Henkel.

Nov. 3

Annual dinner of Mid-Southern branch of the Contractors' Mechanical Plant Engineers, Red Lion Hotel, Henley-on-Thames, 7.30 p.m.

Presentation of L.M.B.A. Medals by Field-Marshal The Viscount Slim, K.G., at Fishmongers Hall, at 3 p.m.

Nov. 7

Institution of Civil Engineers, Great George Street, London, S.W.1. Presidential address by Sir George McNaughton.

Meeting of the Manchester and District branch of the Contractors Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale, 7.30 p.m.

Nov. 8

Meeting of the Reinforced Concrete Association at Royal Society of Arts, John Adam Street, London, W.C.2, 6 p.m. "Shrinkage and Creep in Concrete," by A. M. Neville, M.C., M.Sc.(Eng.).

Nov. 10

Scottish Motor Exhibition, Kelvin Hall, Glasgow, Nov. 10-18.

Dinner dance of the Yorkshire branch of the Contractor's Mechanical Plant Engineers.

Nov. 13

Factory Equipment, Heating, Ventilation and Thermal Insulation Exhibition, Earls Court, London, Nov. 13-18.

Annual dinner of the Lighthouse Club, Grosvenor House, London.

Nov. 15

Building Exhibition, Olympia, London, Nov. 15-29.

Nov. 20

L.M.B.A. President "At Home" at the Building Exhibition, 3.30 p.m.

Nov. 21

Annual banquet of the National Federation of Roofing Contractors, Grosvenor House, London.

Nov. 22

Annual general meeting of the National Federation of Roofing Contractors, London.

Nov. 24

Meeting of the Midlands branch of the Contractor's Mechanical Plant Engineers, Wilson Arms, Knowle, 7.30 p.m. Film and Lecture, by R. Bigwood, British Lift Slab, Ltd.

Nov. 25

Annual dinner of London branch of the Institution of Plant Engineers, Waldorf Hotel, London.

Nov. 28

Mid-Southern branch of the Contractors' Mechanical Plant Engineers, Brains Trust, Grosvenor Hotel, Caversham, Reading.

Nov. 29

Conference on "Oil Hydraulic Power Transmission and Control" at the Institution of Mechanical Engineers, 1 Birdcage Walk, London, S.W.1. Nov. 29-30.

Nov. 30

Annual dinner and dance of the Institution of Water Engineers, Park Lane Hotel, London.

Annual dinner and dance of the Derbyshire branch of the Contractors' Mechanical Plant Engineers, Victoria Restaurant, Chesterfield.

Dec. 1

Winter general meeting of the Institution of Water Engineers, at Institution of Civil Engineers, London.

Dec. 4

Royal Smithfield and Agricultural Machinery Show, Earls Court, London. Dec. 4-8.

Dec. 5

London Master Plasterers Association annual dinner and dance, Grosvenor House.

Dec. 7

Annual dinner and dance of the Midland branch of the Contractors' Mechanical Plant Engineers, Town Hall, Sutton Coldfield.



The shopping centre which, as reported recently, has been completed in the centre of Acreington for Arndale Property Trust, Ltd. The scheme was designed by Mr. G. Baxter, of Arndale Property, working in co-operation with Shingler and Risdon, London, W.C.1. The contractors were Leslie and Co., Ltd., Bradford

Correspondence

THE PACKAGE DEAL

To the Editor of "The Contract Journal."

Sir,—I noted with interest your leading article of August 17 and the subsequent correspondence from Mr. Frederick S. Snow, C.B.E., M.I.C.E.

There is in all fields a natural reaction to any new ideas and methods which may well affect the established ways of working, but new ideas will only live in practice if they improve existing methods.

Package dealing is a type of service which appeals to a widening field of industrialists today and, although doubtless not popular in all cases with the consulting professions, has only arisen as a result of some shortcomings in the service given by traditional methods in the past. By this there is no intention in criticising the technical aspects of that service which has doubtless been of the best in the world and in many aspects still is.

The industrialist or property developer is interested solely in one thing only—the quickest return on his investment, along with the minimum of bridging finance. Thus, the time factor becomes the most important single element to him, once his decision to build has been taken.

The cost is obviously of equal importance but by cost is not meant the tender figure, to which must be added many other factors including, incidentally, the design fees.

I can assure Mr. Snow that package dealing is not the most expensive way of building by any means. After all, a contractor, if farsighted enough, is satisfied with a profit on construction and not on design. Admittedly, the contractor bears a greater risk and must make reasonable allowances but the ultimate assessment of cost with the traditional way of building is the value of the final account, when that account is agreed.

How much expensive case law and wrangling has there been and will continue to be under traditional contracting as a result of flaws in contract documents however carefully compiled, which makes a good living for many a man and many a firm. Contractual negotiations have become a battle of wits with the principle of claims and dayworks being exploited by what is in danger of becoming a new race of Philadelphia lawyers.

Surely a contractor giving a package deal service has no case to argue specification and contract clause anomalies from his own documents.

Again, is there any reason why, although Mr. Snow is cynical on the point, this industry cannot give a firm price in these days. The fact that we cannot do this in some other fields is at the expense of losing our export markets and if we are to continue to live and prosper surely a new philosophy is needed.

If a client is guided adequately there is no reason why a firm offer cannot be made the final price and in cases to my knowledge this has been done. Variations will arise if the client is not discouraged or inadequately advised but even where the client is emphatic and variations do arise, the price can be called for before the work is executed. However, variations cannot be said to be a criticism of package dealing and rather it is that traditional contracting encourages variations whilst true package dealing discourages variations.

Package dealing offers more to industry today and is better understood by the business world as a fairer way of dealing. The business man wants to know the final price before he embarks on the project and is not the slightest bit interested in the cost of the design fee as a separate item, as this would mean very little to him in any case.

If it is a near miracle that a scheme can be designed and a firm price obtained in seven weeks, then I can only say I have been associated with quite a number of near miracles.

One last word—new ideas and methods are wanted in this industry and surely package dealing must be recognised as one of these which is being accepted by a widening field, including many of the young farsighted architects and engineers in the professions. Even local authorities are beginning to accept package dealing and when such bodies read the signs of the times in this way, package dealing must be accepted as having come to stay.

Yours etc.,

D. H. DUCKWORTH.

10 Moreland Drive,
Gerrards Cross,
Bucks.

EFFECTS OF PUBLIC HEALTH ACT 1961

Minister's Circular to Local Authorities

MR. HENRY BROOKE, Minister of Housing and Local Government, has drawn the attention of local authorities in England and Wales to various provisions contained in the Public Health Act, 1961.

Among these provisions are power for him to make building regulations, new local authority powers over trade effluents and the incorporation in the general law of various provisions included in some private Acts promoted by local authorities.

Mr. Brooke has told local authorities that it will be some time before building regulations (which, except in the administrative County of London, will apply to the whole of England and Wales and replace existing local authority by-laws) can be laid before Parliament, and before a date can be appointed to bring them into force. For the present, building by-laws will continue.

Definition Extended

The provisions about trade effluents extend the powers of local authorities to make charges for such effluents and to attach conditions, or vary existing conditions, to their consent for discharges of trade effluents. They extend the definition of trade effluent to include effluents from land or premises used for agricultural or horticultural purposes or for scientific research or experiment.

In a circular the Minister draws local authorities' attention to representations made to him during the Act's progress through Parliament. There has been a strong plea, says the circular, that local authorities ought to make known the basis on which charges for trade effluents are calculated. It continues "The Minister realises that in a number of cases local authorities are content with a charge which approximates to or is even less than the cost of treating ordinary domestic effluent and that in these instances there may be little need for detailed explanation. Where, however, they are making a special charge, for an effluent which is difficult to treat, it seems right that they should make their calculations known as plainly as they can to the trader." By so doing the authorities may well avoid unnecessary appeals to the Minister against the charges they have fixed.

The miscellaneous measures, which have appeared in private Acts and are now incorporated in the general law, are referred to in the final section of the circular.

The Act, with the exception of the part dealing with building regulations and a section on the use of cleansing vehicles on footways, comes into force on October 3. Except for one minor provision the Act does not apply to London.

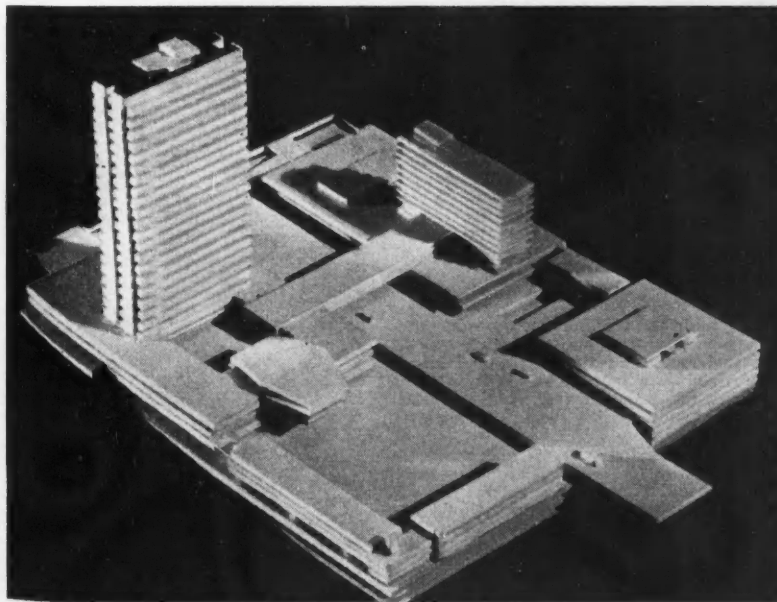
GOLD MEDAL FOR LIGHTING ENGINEER

The gold medal of the Illuminating Engineering Society has been awarded to Mr. H. C. Weston, O.B.E., in recognition of his important contributions to lighting from the early 1920's, including his work on all editions of the I.E.S. Code.

This is the second award of the medal, which was instituted in 1959, and is bestowed at intervals of not less than two years for outstanding contributions to the advancement of lighting. The first recipient was Dr. J. W. T. Walsh, to whom the presentation was made in October 1959.

Early Study

Mr. Weston's interest in and work on lighting and vision grew from his early study of factors affecting the health of industrial workers. In 1920 he was appointed joint secretary with Dr. Walsh of the Home Office committee on factory lighting. Before his recent retirement he was director of the Group for Research on Occupational Optics of the Medical Research Council.



A model of the £5m. scheme which Estates Property Investment Co., Ltd., have prepared for the redevelopment of the Sheaf Valley, Sheffield. The main feature is a reinforced concrete framed tower block, 25 storeys high. As reported recently, plans have been prepared by Marsh and Woolf, 3 Old Barrack Yard, London, S.W.1

Trade and Company News**AUSTIN TRUCKS COMPLETE PROVING RUN IN SOUTH AMERICA****From a Correspondent**

EIGHT Austin commercial vehicles have just completed one of the toughest ever road proving programmes in the Andes mountains of Colombia, South America.

Supervised by B.M.C.'s chief road proving engineer, Mr. Leonard A. Ainsley, A.M.I.Mech.E., in conjunction with the Austin representative in South America, the proving trip set out to observe the effect of variations in altitude, temperature, barometric pressure and road surfaces in that territory.

One objective was that of experimenting with carburation and ignition settings, axle ratios and cooling systems and it was hoped that few modifications to the British-produced vehicles would be necessary to simplify material control and production programmes at home for these export requirements.

Colombia has an area of 450,505 square miles of which less than 25 per cent. is populated and this is concentrated mainly in one relatively small area. There are 19,000 miles of road of which only 2,800

level. Native drivers were employed for the testing programme apart from the two Austin personnel.

The convoy consisted of two L.W.B. Gipsys, one 2-ton T200, one 3-ton 304, 3-ton 303, 5-ton 503 L.W.B., 5-ton 503 S.W.B. 'Telehoist' tipper and 7-ton 702 L.W.B. Dropside, the last named being the only oil-engined vehicle as the petrol engine is certain to be in greater demand in these parts due to its lower first cost and the low price of fuel (at approximately 1/- per gallon for both petrol and diesel).

Test Observations

The only modification necessary to the petrol-engined vehicles was that of altering carburettor jet sizes to cope with the extremes in altitudes and temperatures. It was found that one set of jets would suffice for all conditions between sea level and 12,000ft. giving a satisfactory balance of performance and economy at all times.

The diesel vehicle on the other hand required altered fuel pump settings at high altitudes at it was found that no single



One of the roads in the Andes Mountains

miles are surfaced—the "surface" in most cases consisting of a poor tarmac covering without a conventional base or adequate drainage. 15 per cent. of the mileage consists of flat or undulating roads the remainder running on high and dangerous mountain ledges which are often too narrow for the conventional 7ft. 6in.-wide commercial vehicle.

It is quite commonplace in Colombia to encounter an incline which is 40 miles long with a predominant gradient of 1 in 10 necessitating the use of first and second gears continuously. The test team encountered such conditions daily and it was customary for second gear to be employed on all vehicles for as much as an hour's full throttle climbing.

In Convoy

The eight test vehicles on reaching Bogota—the base of the road-proving team—travelled in convoy for most of the time covering an average of 250 miles per day at average speeds of 22 to 25 m.p.h. despite the atrocious road conditions; the highest mileage covered in any one day was 450 miles when the vehicles climbed from sea level to a point over 12,000ft. up in the Andes and back again to sea

level. setting gave peak efficiency at all times. It was also observed that whereas the petrol vehicles returned fuel consumption figures some 25 per cent. heavier than those obtained on British roads (due mainly to the severe gradients, bad surfaces and, to an extent, the variation in the oxygen content of the atmosphere), the diesel "702" gave results close to those normally obtained at home.

A modification found necessary on the petrol vehicles was that of fitting an electric fuel pump in place of the mechanical type to obviate fuel starvation in such a climate; the standard fuel was, however, of quite good quality being on average rated at 83-octane.

Standard cooling systems coped remarkably well with the large variations in temperatures although it was decided that a slightly larger cooling capacity would be necessary to cover every condition in this territory, where the temperature in Bogota at 8,000ft. is an average of 85 degrees F. only dropping to 80 degrees F. at the highest point reached over 12,000ft.

In all other respects the vehicles required no modification. Chassis, suspension and all mechanical components proved more than able to take the punishment,

and the only breakdown throughout the trip consisted of one puncture.

Transport Position

Road transport is an important business in Colombia as being the most practical means of transport over relatively short distances and between inaccessible mountain towns and villages.

There are very few large fleets in operation since most operators are owner-drivers and there is room for a great expansion in the fleet operation business, particularly in the transportation of coffee from the many large plantations.

Most trucks are in the 6- to 8-ton class, the majority of which are of American manufacture and must give satisfactory service. All the existing vehicles in the 5-ton size are in deplorable condition having been inadequately serviced and badly driven and in this market there is considerable scope for vehicles of the type featuring in the recent proving programme.

BIRWELCO TO MAKE U.S. HEAT EXCHANGERS

Birwelco, Ltd., Aston, Birmingham, have signed an agreement with Yuba Consolidated Industries Inc., Tulsa, Oklahoma, to manufacture and sell Airco Transaire air-cooled heat exchangers in Europe and the British Commonwealth.

Transaire exchangers incorporate finned tubes and electrically driven fans, and are designed specifically for the oil refining, petrochemicals and chemical processing industries. The tubes and the fins, which are wound spirally on the tubes without brazing or welding by a special mechanical process, can be of mild steel, stainless steel, brass, copper or aluminium, according to the ambient atmosphere and the type of liquid to be cooled.

LAMINATED TYRE IS FREE FROM PUNCTURES

A new company called Mitco (Overseas), Ltd.—part of the Vacu-Lug Organisation, Grantham, Lincs.—are to manufacture and distribute a new laminated industrial tyre which is free from punctures and impact damage.

This Mitco tyre is a product of the American firm, Mitchell Industrial Tire Co., Inc., Chattanooga, and is built up of segments, part rubber and part fabric. It is said to have resilience equivalent to that of an inflated pneumatic tyre and the hard-wearing properties of a solid. The load carrying capacity is equal to the maximum



Mitco laminated tyre

rated loading of any equipment to which it is fitted.

The tyre will be of special use in conditions where conventional pneumatic tyres are too easily damaged, i.e. glass works, industrial factories, refuse tips and steel works, and on any of the more general applications where tyre costs are high and breakdowns through punctures numerous.

Trade and Company News

FOUR-TON MOBILE CRANE ADDED TO COLES RANGE

A MOBILE crane of four tons lifting capacity has been added to the Coles range by Steels Engineering Products, Ltd., Crown Works, Sunderland, and is available in either strut or cantilever jib form.

Named the Leda, the crane has been designed, among other requirements, to work in narrow aisles; to be capable of sustained road travel and gradient negotiation; to be completely operable by one man with all controls accessible from the driving position; and to have all components accessible for quick servicing.

New Design

Design differs from current Coles mobile crane practice. The Ford four-cylinder diesel engine, which develops 52 b.h.p. at 1,800 r.p.m., is mounted in the chassis and powers a mechanical travel transmission in addition to the generator, which is driven by a gearbox power-take-off.

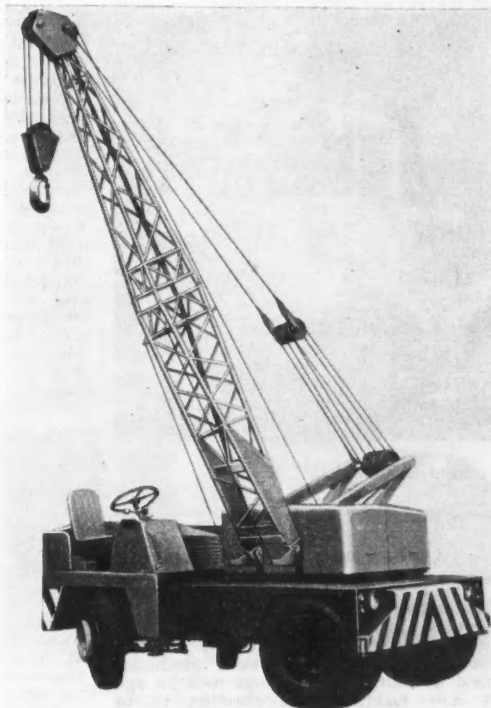
This is a normal variable voltage/variable speed unit of 0-400 volts capacity, but in this instance it is underslung from the crane chassis. Slew unit, brake and motor are also mounted in this fashion. The superstructure bears only the hoist and derrick units, motors and brakes; electrical contactor gear; ballast; and the A frame and jib. All hoist and derrick operative components are fully interchangeable.

From the engine, the drive is transmitted to the twin driving wheels via a hydraulically operated semi-centrifugal single dry plate clutch, a four forward speed and one reverse speed gearbox (possessing synchromesh on second, third and fourth gears), and an open propeller shaft fitted with universal joints.

The driving axle is of the double reduction type with primary spur gearing and secondary hypoid bevel drive. It is equipped with a normal automotive type differential

and fully floating axle shafts, and is solidly mounted to the chassis frame.

The steering axle is suspended from the chassis frame by wide based coil springs and is equipped with hydraulic shock absorbers. It comprises an alloy steel beam carrying the stub axles in phosphor bronze bushes, with the wheel hubs mounted on taper roller bearings. Steering is achieved by a cam and double roller type gearbox which is assisted by an axle-mounted hydraulic ram served by a gear type pump belt-driven from the engine. Both the steering axle wheels and the



Coles Leda, equipped with strut jib

driving wheels are fully interchangeable. Foot-operated, hydraulically applied brakes act on all wheels and a hand-operated mechanical parking brake acts on the driving wheels only.

One combined pilot switch operates both the hoist and the 360 degree slewing motions and another single switch, the derricking action. This combined two-motion pilot switch will, it is claimed, enable the operator to considerably speed up handling cycles. With it he can simultaneously or independently operate both the hoist and slew motions with one hand, leaving the other hand free to steer or operate the derrick motion.

Hoisting and derricking are at all times rigorously governed by several safety devices. Electro-mechanical brakes, spring-applied and released by a continuously rated solenoid coil, automatically operate if the power flow is interrupted for any reason—and hold the load secure until motor current is resumed. Limit switches of the totally enclosed, automatically self-resetting type, prevent overlowering and overwinding on the hoisting motion, and overderricking beyond safety limits which have been predetermined by operating requirements. An automatic safe load indicator is available which continuously weighs every load and warns the operator both visually and audibly of any tendency to overload the crane. This device automatically prevents lifting of an unsafe load irrespective of the position of the jib.

Maximum load, based on B.S.S.1757, that can be lifted by the crane in both its strut jib and cantilever jib form, is four tons. The cantilever version, which is not equipped with outriggers, has a maximum radius of 12ft. when fitted with a basic 11ft. 3in. jib; 15ft. 9in. when fitted with a 15ft. jib; and 20ft. 9in. when fitted with a 20ft. jib. In its strut form, when fitted with the basic 20ft. jib, the crane has a maximum radius of 19ft. (blocked) and 17ft. 6in. (mobile). When fitted with its maximum jib of 50ft., the blocked radius is increased to 30ft.

The machine has a maximum speed of 17.6 m.p.h., and at peak torque of 158lb./ft. at 1,500 r.p.m., can negotiate a gradient of 1 in 3½. When travelling by road, the jib is struck into its intermediate sections, which are stowed on the machine, and quickly assembled on arrival at the site. A fuel tank of 20 gallons capacity gives a range of about 250 miles.

Among features resulting from the new design are the reduced height of the structure; a tail radius exceeding the chassis width by only 1in.; and a turning radius of 12ft.

STOCKPILE REMOVAL AT DARTFORD TUNNEL

AT West Thurrock, on the Northern Approach Road to the Dartford Tunnel, two Case 1000 "D" tractor shovels, owned and operated by Sam Booth, Ltd., are at work moving a 35,000 cu. yd. stockpile. This stockpile, which consists of clay with a little chalk, was dug last year and left at the north end of the road. Now that the main road structure is complete, this spoil is being moved by lorries and used for making up embankments at the tunnel entrance.

One of these tractors was subjected to measured output tests by the owners and it was found that it was digging from the stockpile and loading into 9 cu. yd. lorries at the rate of one lorry load per two minutes, which is a rate of 225 cu. yd. per fifty minute hour.

Model D

The 1000 "D" is of the same (100) horsepower and standard bucket capacity (2 cu. yd.) as the previous Case model 1000 shovels but has been redesigned, increas-

ing the torque converter stall ratio from 1.72:1 to 1.92:1; the drawbar power to 28,000lb.; the lift capacity from 23,700lb. to 26,750lb.; and the breakout force to

18,300lb. Certain restyling and repositioning of controls and components have also been carried out to make operation and maintenance easier.



Case 1000 "D" shovel at work on tip

Trade and Company News**INTERCONSULT'S FIRST CHASSIS MOUNTED TWIN CEMENT CONTAINERS**

TWIN spherical containers and pneumatic discharge equipment are featured in the first chassis mounted, twin spherical container equipment manufactured by Interconsult, Ltd., Slough.

The light alloy containers are integrally welded, and mounted on an A.E.C. Mammoth Major Chassis by special three-point suspension, which permits independent movement of the chassis and containers.

Advantages of the twin containers, apart from an increased payload, is that one half

the load can be discharged at one site and the other transported to another delivery point. Two different materials can also be carried.

A payload of 15 tons of cement is carried in the twin containers, their combined volume is 480 cu. ft. Discharge pressure is 28 p.s.i. supplied by an Atlas Copco V-type compressor, which is mounted on the chassis, just behind the tractor cab, drive to the compressor is via a power take-off point. Discharge capacity is at the rate of 80 tons per hour in a 60ft. 4in. pipeline.



Chassis mounted twin cement containers

SERVICE TO IMPROVE FLEET OPERATION

Personnel Administration, Ltd., 2 Albert Gate, London, S.W.1, are now offering a new service for firms operating transport fleets. It aims at improving efficiency by providing more frequent and better timed deliveries or collections and at reducing costs by arranging for fewer vehicles and men to provide the service.

The company state that the service will normally cover such matters as the number, size and type of vehicles required for maximum efficiency; the setting up of standards to cover loading, running and unloading; the introduction of journey planning procedures to ensure the best utilisation of vehicles and drivers; the provision of a suitable basis of payment for drivers, which includes expense allowances and a bonus scheme based on performance; and improvement where necessary of the organisation and control of vehicle maintenance.

Each firm using the new service will be assigned a management consultant who will be responsible for the introduction and subsequent "nursing" of any changes

AYGEE FORM FOUR-COMPANY GROUP

Aygee, Ltd., are reconstituting their organisation into a holding company and three separately financed companies which until now have been operated as divisions.

The new Aygee group consists of: Aygee, Ltd., a holding company; Aygee (Glass), Ltd., glass merchants and glazing contractors; Aygee (Metal Windows), Ltd.; and Aygee (Hospital Equipment), Ltd. Directors of each company will be drawn from the managers and assistant managers of the former Aygee divisions.

ASPECT P.V.C. SHEETING

Allied Structural Plastics, Ltd., a company formed in equal partnership by the Universal Asbestos Manufacturing Co., Ltd., of Watford, and Thermo Plastics, Ltd., of Dunstable, has been producing p.v.c. pressure pipe for some months, and is now making p.v.c. sheeting to be marketed, in November, under the trade name of Aspect.

Flat sheeting is produced in widths up to 56in., and corrugated sheet, to match 3in. and 6in. asbestos cement sheet in widths of 30in. and 42½in. Both flat and corrugated sheets are available in lengths from 4ft. to 10ft. in 6in. increments. The sheet can also be supplied 56in. wide and in rolls up to 30ft. long transverse corrugated to the same profiles. Standard sheet thickness is ¼in. and the weight per sq. ft. is approximately 7oz. All types of sheet are available in a range of four colours, or clear.

Rainwater System

Allied Structural Plastics, Ltd., are also now introducing the Aspect p.v.c. rainwater system. The range of components forms a complete system for pitched and flat roofs, and for balcony drainage.

NON-METALLIC SHOTBLAST ABRASIVE

Bradley's (Darlaston), Ltd., Darlaston, Staffs., have produced a non-metallic shotblast abrasive which they state is one-fifth the price of the conventional metallic abrasive.

Recent trials on bridges and oil tanks are said to have left steel surfaces with an excellent key for priming paints. No-Met is free of silica and so complies with shotblasting regulations.

BULB TURBINES FOR SCOTTISH HYDRO SCHEME

The North of Scotland Hydro Electric Board have placed a contract with the Armfield Hydraulic Engineering Co., Ltd., Ringwood, Hants., for the supply and erection of two bulb-type water turbo-generators for the Awe Barrage in Argyllshire.

The barrage, which is situated near the outlet of Loch Awe, will divert the flow of water into a new tunnel being provided to supply the hydro-electric plant at Inverawe Power Station near the outlet of the River Awe. Lock Awe will also constitute the lower reservoir of the new Cruachan pump storage scheme which will be the first major scheme of this type brought into operation by the Board.

The units supplied for the Awe Barrage will each be designed to develop 695 b.h.p. at a net head of 22.5ft. Bulb units were selected by the Board as they are particularly suitable for the conditions which will prevail at the barrage. Armfield Hydraulic Engineering Co., Ltd. who act as main contractors, are supplying bulb turbines manufactured by Ets. Neyrpic, Grenoble, driving induction generators made by Alsthom, of Belfort. The units will be similar to machines already supplied by Ets. Neyrpic for various installations in France.

Armfield have also been awarded the contract for the turbine inlet gates and outlet gates. The inlet gates are of the stop log type, while the outlet gates are hydraulically operated, gravity closing, fixed roller gates which are used to bring the turbines to rest. Electrical and mechanical engineering consultants for the Cruachan and Inverawe Schemes are Merz and McLellan. The civil consulting engineers are James Williamson and Partners.

AUTOMATIC TRANSMISSION PRODUCTION BEGINS

Production of a fully-automatic transmission for medium cars is now in hand at the major factory extension completed last year at Letchworth, Herts., for Borg-Warner, Ltd.

The extension includes about 140,000 sq. ft. of production floor space, and consists of a central productive area with side wings, fronted with a high bay area used as a press shop, and equipped with stanchions for future installation of a 10-ton overhead travelling crane.

Richard Costain (Construction), Ltd., 111 Westminster Bridge Road, London, S.E.1, were the contractors for the extension.

IMPROVED ANTI-CORROSIVE COATING

Research into the curing and adhesion of pitch/resin formulations under adverse conditions has led E. and F. Richardson, Ltd., Buckingham, to the development of a new anti-corrosive coating, Adcora Pervon.

This is a polyurethane pitch coating which cures rapidly at all temperatures, even those below freezing point, and is unaffected by high humidity. It can be applied effectively both to blast cleaned metallic surfaces and to those prepared by less thorough methods.

The chemical resistance of Adcora Pervon is described as exceptional. Ferrous surfaces protected with a 10 mil coating are said to emerge unscathed and indistinguishable from their original appearance after immersion for six months in 20 per cent. nitric or chromic acid.

NEW LAND-ROVER TIPPER

Alfred Miles, Ltd., Brockworth, Gloucester, have designed a hydraulic tipper body for use with the Land-Rover chassis and controls. It is fitted with a telehoist hydraulic ram, operated by a standard Rover p.t.o. unit and Dowty pump. The angle of tip is 46 degrees.

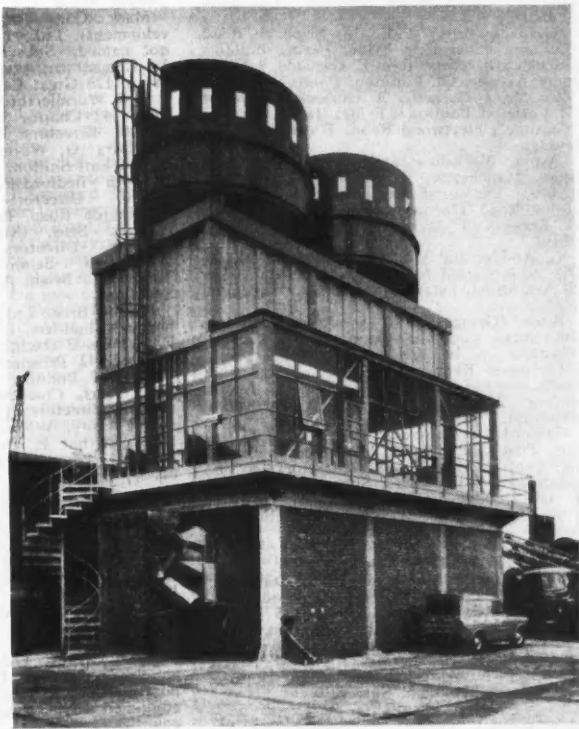
*Trade and Company News***READY MIXED CONCRETE OPEN NEW PLANT
AT FULHAM**

BELIEVED to be of the most advanced design in ready mixed concrete producing plants to be erected in this country, the Fulham plant of Ready Mixed Concrete (London), Ltd., recently commenced production. Situated on the north bank of the Thames near Wandsworth Bridge, it operates on the continuous batching and mixing principle having an output of three cubic yards of concrete per minute.

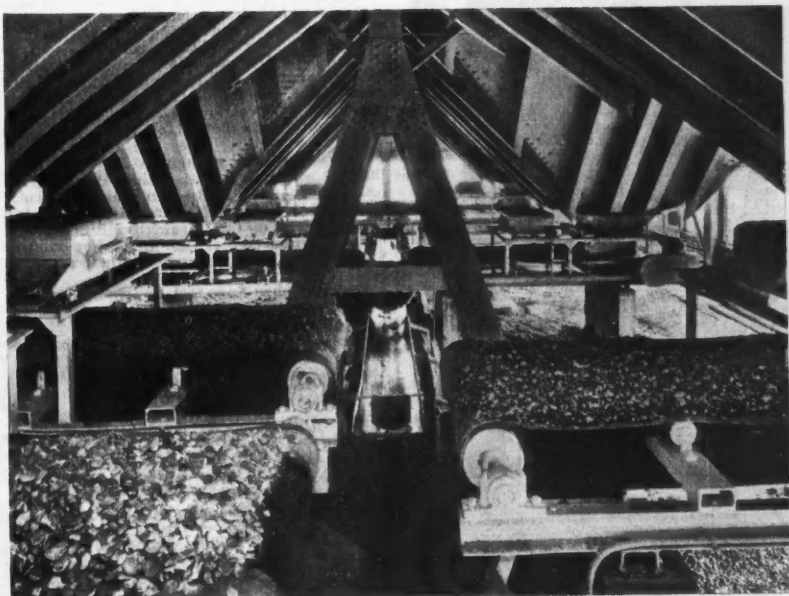
Incoming aggregates delivered by either road or river can be received; the dual system of ground feed hoppers and inclined conveyors enable both types of delivery to be accepted simultaneously at the rate of 500 tons per hour. Aggregates are distributed from the inclined conveyors to the appropriate storage hoppers either by a pivoted distributor or a slewing conveyor, the units being power-operated from a remote control point. For aggregate storage, a system of elevated steel storage hoppers was designed to give a nominal capacity of 1,500 cu. yd., enabling seven different types of aggregate to be stocked. A belt weigh-feeder is located beneath the outlet from each of the seven storage hoppers for measuring the quantity and rate of flow. The weighing device com-

pensates for variations in the rate of flow by increasing or restricting the opening through which aggregate enters from the feed hoppers. Batched aggregate is fed to the mixing station along a two-stage 30in. conveyor belt.

Cement is delivered in pressurised lorries and blown into the storage compartments; dual unloading stations are provided to enable two vehicles to unload one type of cement at the same time. Two 16ft.



General view of plant



Aggregate storage section, showing feeders for seven types of aggregates in relation to batch conveyor

diameter cement silos each having two compartments enable four different types of cement to be stocked, total storage capacity being 120 tons. Cement is batched in a similar manner to the aggregates except that a screw conveyor is used to feed the material on to the belt weighers. The flow of water into the mixer is controlled by a solenoid operated stop valve and regulated by a graduated quick acting valve. The rate of flow is also indicated on a rotameter which gives immediate indication of any variation in the set rate of flow. Provision is also made for the addition of liquid additives when specified.

The controlled quantities of aggregate, cement and water are combined within the mixing station and fed into the continuous mixer which is mounted on an independent framework in order to isolate all vibration from the control equipment. If required, the batched material can be directed to a dry batch leg which by-passes the mixer and allows the operation to be independent of the mixer unit, its use being mainly confined to dry mixes.

Control Panel

A comprehensive control panel contains a setting dial for each material, timer and control switch. Each setting dial is graduated in lbs. of material per cu. yd. of concrete over the range of quantities required. To produce any required mix the constituent materials are selected and the appropriate dials set at the required rate. This electrically adjusts the variable speed gears to give the requisite flow of materials from the weigh-feeders.

The mixing cycle commences with the selected aggregate farthest away from the mixing station feeding at a constant rate on to the batch conveyor. At the point where each weigh-feeder feeds on to the batch conveyor, a flap switch is located which, when actuated by the material on the belt, brings the feeder for the selected materials into operation. A final flap switch is located near the head of the batch conveyor operating the control for the cement and water which are added to the other materials before being fed into the mixer. At the termination of the set time period, the first feeder is isolated, thereby stopping the flow of material, the flap switches are allowed to return to their normal position, isolating their respective feeders.

The equipment incorporates an adequate system of safety interlocks which ensures that should the flow of any one material fail, or for any reason vary from the present flow, the cycle will automatically shut down, at the same time giving a record of the quantity of concrete produced. All aggregate feeders incorporate an adjustment to permit compensation for moisture content variations.

Administrative office accommodation is adjacent to the mixer room allowing direct communication with the operator. A system of internal communication by loud-hailer has been installed linking up all parts of the depot. Air tube carriers are provided for the transmission of documents, etc. A teleprinter machine gives direct contact with the Company's Central Ordering Department situated just off Whitehall.

**NO OBSTRUCTION WITH
NEW STAGING**

Latest addition to the Hi-Way range of staging equipment, made by Martin Thomas, Ltd., Hayes Road, Southall, Middx., is an improved Hi-Clearance assembly.

This new unit may be used at the entrances to buildings without causing obstruction to pedestrians. U-frames, embodying snap action hooks, are attached to standard span end frames to form a base section giving a good clearance.

A base section so formed can be used with either step or span Hi-Way staging. U-frames and span side frames are also available to form a base section giving clearance on the same line as the platform board.

Trade and Company News

NEW COMPANIES

The undermentioned particulars of new companies recently registered are taken from the daily register compiled by Jordan and Sons, Ltd., company registration agents, 116 Chancery Lane, London, W.C.2:—

Myloire Bros., Ltd., 24 Crompton Avenue, Blackpool, builders. £500. Directors: Percy Myloire, 24 Crompton Avenue, Blackpool. Bernard Myloire, 27 Elaine Avenue, Blackpool. Wallace Myloire, 60 Worcester Road, Blackpool.

C. J. Norris Constructions, Ltd., builders. £100. Directors: Christopher J. Norris and Mrs. Veronica Norris, 27 Grange Road, Tongham, Surrey.

Effgee Developments, Ltd., Gloucester Street, Wotton-under-Edge, Glos., builders. £1,000. Directors: Harry Grimes and Mrs. Hannah F. Grimes, The Butts, Wotton-under-Edge, Gloucester.

T. Lawber and Sons, Ltd., builders. £2,000. Directors: Thomas M. Barber and Mrs. Nettie Barber, 63 Dane Road, Dane Bank, Denton.

A. E. Parris, Ltd., 90 Chesterfield Road North, Mansfield, builders. £3,000. Directors: Arthur E. Parris and Mrs. Ena M. Parris, 305 Chesterfield Road South, Mansfield.

Casa Constructions (Portslade), Ltd., 11 Station Road, Portslade by Sea, Sussex, builders. £200. Directors: Albert J. Bloomfield, 156 New Church Road, Hove, 3. William E. Phillips, 128 Woodland Drive, Hove.

Newhaven Building and Construction Co., Ltd., 56 Kingsway, W.C.2, £10,000. Directors: Harold A. E. Towle, Newhaven Court Hotel, Cromer. Claude S. Fenton, 97 London Road, Ipswich. Robert L. Bartrum.

Wellman Demolitions (Eastbourne), Ltd., 5 Eversfield Road, Eastbourne, Sussex. £1,000. Directors: Richard H. Webber, 5 Eversfield Road, Eastbourne, Sussex. David R. Wellman, 8 Thurock Close, Willingdon.

Arnold Quick and Co., Ltd., 1a Barnfield Crescent, Exeter, builders. £1,050. Directors: Harold Arnold and Eric Arnold, 4 Second Avenue, Exeter. John C. Quick, 207 Exeter Road, Exmouth.

Beckmaid Construction, Co., Ltd., 9 Cavenish Square, W.I. public works contractors. £100. Directors: George Y. Paetz, 39 Cedars Road, Beckenham. Cyril H. Gylee, Falconhurst, Holt Wood, Aylesford.

Meopham Construction, Ltd., 13 Harland Avenue, Sidcup, Kent, builders. £100. Directors: Lilian B. Thompson and Arthur J. Thompson, Dover Castle Cottage, Wrotham Road, Northfleet.

Ray Watson, Ltd., Builders. £3,000. Directors: Ray Watson and Mrs. Barbara Watson, 15 North View Street, Keighley, Yorks. Stourbridge Building Co. Ltd., 5 Woodend Road, Erdington, Birmingham. £100. Directors: Frederick Y. Brooks, 21 Wentworth Road, Four Oaks, Sutton Coldfield; Leslie F. T. Perry, 88 Walmley Ash Road, Sutton Coldfield.

Frank Thomas (Civil Engineering) Ltd., Beech House, 76 London Road, Redhill, Surrey. £1,000. Directors: Frank Thomas and Mrs. Vera Thomas, Flat 3, Beech House, 76 London Road, Redhill, Surrey.

J. H. Howard, Ltd., 20 Bridge Street, Leighton Buzzard, Beds., builders. £1,000. Directors: James L. Howard and Rosemary J. Howard, 30 Chiltern Avenue, Edlesboro, Dunstable.

Gartside Bros., Ltd., 1a Bispham Road, Carleton, Poulton le Fylde, Lancs., builders. £10,000. Directors: John E. Gartside, 9 Thirlmere Avenue, Gt. Carleton, Poulton le Fylde; Miss Mona Gartside, 9 Thirlmere Avenue, Gt. Carleton, Poulton le Fylde; James Gartside, "Gardine", Fleetwood Road, Thornton, Clevelands.

Aspin, Blackshaw and Co. Ltd., 40 King Street, Manchester, 2, erection of buildings. £2,000. Directors: Gwilym C. Roberts, 20 Hulme Road, Heaton Chapel, Stockport; Hilda G. Roberts, 1 Annis Road, Alderley Edge, Ches.

G. Ambler and Son, Ltd., builders. £1,000. Directors: Gerald Ambler and John H. Risley, 20 Ash Street, Ferry Lane, Stanley, Wakefield, Yorks.

Bison (Garages) Ltd., reinforced concrete and mass concrete engineering. £20,000. Directors to be appointed by subscribers. Subscribers: Kenneth M. Wood, Ridge End, Finchampstead, Berks.; Timothy S. Lucus, Sharow Hall, Ripon, Yorks. (managing directors).

Canford Developments Ltd., Digby Chambers, Post Office Road, Bournemouth, building contractors. £100. Directors to be appointed by subscribers. Subscribers: Charles R. Olley, Flat 1, The Close, Westminster Road, Bournemouth West (clerk); Isabella M. Goldie, 12 Alexandra Road, West Southbourne.

H. R. Pipkin, Ltd., New Bungalow, Hampton Poyle, Oxford, builders. £500. Directors: Herbert R. Pipkin, 58 Fernhill Road, Begbroke, Oxford; Barbara R. Parsley, 5 Jerome Way, Shipton on Cherwell, Kidlington, Oxon.

F. H. Norris, Ltd., builders. £3,000. Directors: Fredk. H. Norris, Mrs. Agnes M. Norris and Mary N. Alderton, all of 11 Dorking Road, Great Bookham, Surrey.

Emery (Contractors), Ltd., 293 London Road, Hadleigh, Essex, builders. £100. Directors: Norman V. L. Emery and Enid J. Emery, 571 London Road, Hadleigh.

S. A. Eyden, Ltd., civil engineers. £5,000. Directors: Stanley A. Eyden and Beryl B. R. Eyden, 120 Crabmill Lane, Coventry.

T. Sloyan and Sons (Builders), Ltd. £300. Directors: Thomas Sloyan and Winifred M. Sloyan, 111 Leyfield Road, West Derby, Liverpool.

Ashton and McCaul Plant Hire, Ltd., 109 Bradshawgate, Leigh, Lancs. £100. Directors: John McCaul, 4 Chestnut Avenue, Leigh, Lancs.; Joseph McCaul, 76a Sydney Avenue, Leigh, Lancs.; Eric Ashton, 208 Hope Carr Road, Leigh, Lancs.

Walls and Knights, Ltd., 29 Greenfields Road, Horley, Surrey, builders. £1,000. Directors: Richard E. Walls, 29 Lady Margaret Road, Ifield, Crawley, Sussex; Gregor C. Knights, 67 Kilnmead, Northgate, Crawley, Sussex; Donald A. Walls and Ronald Walls.

Mark Construction Co. (Industrial Development), Ltd., builders. £100. Directors not named. Subscribers: W. J. Reichmann, 10 Kingsdown Avenue, W.3; Donald E. G. Wing, 126 Great Cambridge Road, N.17.

F. D. Wormleighton and Son (Earl Shilton), Ltd., 142 Charles Street, Leicester, builders. £2,000. Directors: Fredk. D. Wormleighton and Mrs. G. Wormleighton, Kenya, Melton Street, Earl Shilton, Leics.

North Bedfordshire Building Co., Ltd., £1,000. Director: Douglas J. Lowden, 23 Goldington Road, Bedford.

Clark Bros. (Swindon), Ltd., builders. £25,000. Directors: Bertram R. J. Hearse, Wentworth, Belmont Crescent, Swindon; Terence C. Brian, Abbey Gardens, Blunsdon, Swindon.

Flinton Bros., Ltd., 82-83 Newborough, Scarborough, builders. £2,000. Directors: Samuel E. Flinton, 2 Oxcliffe, Scarborough; James L. Flinton, 42 Prospect Crescent, Scarborough.

Portable Buildings (Fordham), Ltd., Headgate Court, Colchester, Essex. £1,000. Permanent directors: Jas. H. Eldridge, Woodside Factory, Wormingford Road, Fordham, Essex; Arthur E. Harman, 18 Church Road, Dedham, Essex; Edward C. P. Love, Lynbrook, Spring Lane, Fordham Heath, Essex.

TRADE NEWS IN BRIEF

Gorrill's, Ltd., have opened a new tyre service centre at The Tyre House, Main Street, Distington, Workington, Cumberland. Tel: Harrington 247.

Keystone Paint and Varnish Co., Ltd., have opened a new office at 9 Brunswick Street, Belfast 2.

Henry Sykes, Ltd., London, S.E.1, have appointed Scottish Land Development Corporation as agents for their pumps and other equipment in Scotland and the four northern counties.

The Treasury, Malta, have ordered 12 Warehouse platform trucks and four K.51 fork lift trucks from Yale and Towne Manufacturing Co., Ltd., Willenhall, Staffs., for use in the port of Valletta.

Sealocrete Products, Ltd., Atlantic Works, Hythe Road, London, N.W.10, announce that their Plazcrete concrete plasticiser will in future be known as Sealoplaz.

Lancashire Dynamo and Crypto, Ltd., Acton Lane, London, N.W.10, and Trafford Park, Manchester, have produced a leaflet describing their Crypto-D range of fan-cooled cage rotor motors (Leaflet SL.2).

The manufacture, types and applications of Permabrite welded stainless steel tubes form the subject of a 12-page illustrated booklet just published by Rollo-Hardy and Co., Ltd., Paddockhall Road, Haywards Heath, Sussex.

The Valor Co., Ltd., Erdington, Birmingham, have introduced a gas-fired boiler, the S.A.40 G, as an alternative to their range of oil-fired boilers.

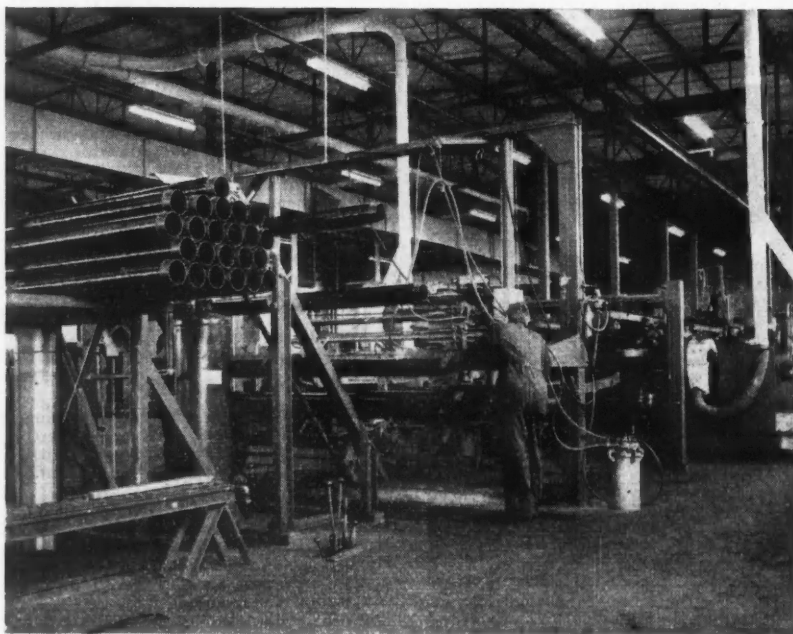
George Cohen Sons and Co., Ltd., announce that they are now offering the new Northfield F.7 dump truck for hire.

The new address of Kellogg International Corporation is Kellogg House, 62-72 Chiltern Street, Baker Street, London, W.1. Tel: Hunter 4444.

COMPANY RESULTS

Holst and Co., Ltd.—Profit for the year ended March 31, 1961, £500,000 (£398,652). Net profit after tax, £250,000 (£239,298). Recommended final dividend 10 per cent. Interim dividend 5 per cent.

Winget, Ltd.—Trading profit for the year ended March 31, 1961, £308,941 (£268,688). Profit after taxation, £153,755 (£136,765). Recommended final dividend 7½ per cent. on a capital of £632,000 (compared with 10 per cent. on £432,000). An interim dividend of 5 per cent. was paid on a capital of £594,000 (5 per cent. on £324,000).



The first of two proposed production lines for the manufacture of pitch fibre pipes is now in full operation at the Ellesmere Port factory of Bowater Flexpipe, Ltd. Pipes of 10ft. length are made at the plant, which is largely automatic. At the stage shown above, a lathe machines the pipes to length, tapers the ends, ejects the pipes and passes them to a paint spray stencil and a bundling machine

Current Constructional Activities

PROJECTS

CONTRACTS

AWARDS

THIS editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the Journal.

BUILDING AND DECORATING (See also Housing Schemes)

Alnwick, Northumb.—R. Housby, The Darters, Alnwick, proposes mineral water factory at Pottergate New Row.

Belfast.—Hobart and Heron, 120 Scottish Provident Buildings, Belfast, 1, are the architects and A. G. Crawford, 1 Lombard Street, Belfast, the quantity surveyor for erection of a Mormon church at Holywood Road, for the Church of Jesus Christ of Latter Day Saints. Working drawings are being prepared.

Cambridge, Corn.—Sketch plans have been approved for the erection of a new school on the Glebe Fields, for the Truro Diocesan Education Committee. Architects for the scheme are Geoffrey Bazeley and Barbary, 5 Portland Square, Plymouth and consulting engineers are Handiside and Taylor, 68 Great Russell Street, London, W.C.1.

Croydon, Surrey.—B.C. recommended, subject to Ministry approval, to approve preliminary plans for the erection of changing rooms for Selhurst Grammar School for Boys at Old Norwood Golf Course. Estimated cost £10,000.

Town Planning Committee have approved, subject to conditions, plans for the erection of an office block at 2-20 Friends Road and 2 and 2a Edridge Road, for Impact Properties, Ltd., Napier House, 24-27 High Holborn, London, W.C.1; outline applications for offices, stores, showrooms and seven garages at 210-212 Brigstock Road, for Allsop and Wagner Ltd., 9 Park Street, Croydon; approved outline application for factory and offices at 73, 75 and 77 Lansdowne Road, for J. Brett, 21 Onslow Avenue, Cheam, and for the provision of headquarters for British Legion, including hall, offices, club rooms and caretaker's flat at 1268 London Road, for Norbury Branch, British Legion.

Edinburgh.—Kinnear and Gordon, 54 Manor Place, are the structural consultants and Ian Hunter and Partners, 46 Palmerston Place, the heating and electrical consultants for erection of James Gillespie's High School for Girls.

Elstree, Herts.—R.D.C. are to submit to Ministry for approval in principle, scheme for proposed swimming pool and public hall at Elstree Way, Boreham Wood. Estimated cost £264,000.

Enfield, Middx.—Richard Suddell and Partners, are the architects and Alan and Sylvia Blanc and M. G. D. Dixey, consulting engineers, both of 2 Guildford Place, London, W.C.1, have prepared plans for the erection of a sports pavilion and groundman's house at Whitewebbs Lane, for Enfield Rolling Mill, Ltd., Charles Hunt and Partners, 38 Parliament Street, London, S.W.1, are the quantity surveyors for the scheme. Estimated cost £22,000.

Guildford, Surrey.—B.C. recommended to invite tenders for the conversion of 2 and 4 South Hill, Bowling Green Cottage and Castle Gate House into refreshment rooms with living accommodation.

Hertford.—B.C. recommended to approve alterations and painting at the Control Centre, Bayley Hall.

Hexham, Northumb.—It is proposed to erect R.C. church and presbytery at Corbridge. The architect is A. Rossi, 88 Medomsley Road, Consett, Dur.

Ilford, Essex.—B.C. recommended to appoint W. V. Zinn and Partners, Collingham House, Eagle Street, London, W.C.1, as consulting engineers for the construction of a multi-storey garage at the Balfour Road site; approve schemes and invite tenders in due course for the erection of 12 garages at Southdown Crescent, 24 at Shakespeare Square and 12 at Culpeper Close; approve plans for im-

provements and extensions to two pavilions in Clayhall Park. Estimated cost £9,770.

Islington.—L.C.C. approved plans by Lyons, Israel and Ellis, 43 Portland Place, London, W.1, for the erection of a home for old people at Dorinda Street. Estimated cost £178,060.

Lambeth.—L.C.C. approved plans for repair and modernisation of 282-98 South Lambeth Road. Estimated cost £27,485.

Letchworth, Herts.—Peter Bosanquet and Partners, 60 St. John Street, Oxford, are the architects for the erection of the new church of St. George at Norton, for the Parochial Church Council. The quantity surveyors are Davis, Bellfield and Everest, 9 Ashley Place, London, S.W.1, for the scheme. Consulting engineers are Ove Arup and Partners, 13 Fitzroy Street, London, W.1, and heating consultants are T. B. Ward, 56 Station Road, Letchworth. Estimated cost £35,000 to £40,000.

Luton, Beds.—B.C. recommended to approve, subject to conditions, plans for the erection of a public house at the junction of Bramingham Road and Watermead Road, for Flowers Breweries, Ltd., Luton; newspaper depot with flats over between 46 and 56 John Street, for Walters Central Newsagency, Ltd., 10 Silver Street, Luton; retail store and offices at the Methodist church site, Waller Street, and 35-45 Cheapside and 3-9 Silver Street, for Country and New Town Properties, Ltd., 10 Cheapside, Luton.

Mitcham, Surrey.—B.C. recommended to approve, subject to conditions, plans for extension of factory to form light crane bay and offices at Willow Lane, for Morfax Ltd., Bernard L. Clark and Partners, 39 Victoria Street, London, S.W.1, are the consulting engineers for the scheme.

Newburn, Northumb.—Plans have been prepared by the C.W.S. Architects' Dept., 90 Westmorland Road, Newcastle upon Tyne for additions to Throckley District Social Club.

Newcastle upon Tyne.—City Council are to start work next spring on a college to be built in Scotswood Road and Westmorland Road, Newcastle. The architects are W. B. Edwards and Partners, Cathedral Buildings, Dean Street, Newcastle upon Tyne. Estimated cost £720,000.

Planning approval has been given for the erection of a plastic surgery building and consulting rooms at the Royal Victoria Infirmary. The architects are Stienlet and Son, 4 Queen Square, Newcastle upon Tyne.

Northumberland.—Future development plans proposed by the County Library Authority include branch libraries at Haltwhistle, Longbenton, Ponteland and Newbiggin, and additions to the library headquarters at Morpeth.

Norwich.—City Council recommended to approve scheme for roof repairs at Bignold School. Estimated cost £2,500.

Rickmansworth, Herts.—Ministry have approved scheme for the use of existing building on land at Church Wharf for timber storage and joinery works, for Aaronson Brothers, Ltd., Veneers Town Wharf, Wharf Lane, Rickmansworth.

Sedgefield, Dur.—Tarren and Caller, Front Street, have prepared plans for offices and showroom at West Cornforth, for Hepplewhite, Ltd.

Scunthorpe, Lincs.—B.C. recommended to approve in principle, outline drawings of the proposed market; submit for approval scheme for adaptation of the basement in the civic centre to a civil defence control centre. Estimated cost £2,200.

B.C. recommended to approve plans for motor depot, service station, showroom, stores, etc., at Normanby Road, for Kennings Estates, Ltd., Kenning House, West Street, Chesterfield; erection of supermarket and nine shops at Doncaster Road for the Venture Property and Development Co. Ltd., 3 Buckingham Palace Gardens, London, S.W.1.

Slough, Bucks.—B.C. recommended to approve scheme for improvements to the Lido swimming pool.

Somerset.—Home Office have approved site at West Hatch for the erection of a new approved school. Estimated cost £250,000 to £300,000.

Southgate, Middx.—B.C. recommended to approve, subject to Ministry approval, scheme for the improvement of nos. 58-70, 74-78 and 82-88 (even) at Chelmsford Road. Estimated cost £12,350.

B.C. recommended to approve, subject to conditions, plans for the erection of part three-storey and part nine-storey office building on land south of Cockfosters Station (site no. 1) and a five-storey office building at the junction of Cockfosters Road (site no. 2) for M. Aaronson, c/o Riches and Blythin, architects, 16 Northumberland Avenue, London, W.C.2.

Stoke Newington.—L.C.C. approved plans for the erection of a new school for partially-sighted children at Clissold Road. Estimated cost £124,280.

Wallsend, Northumb.—A contract will be decided within a few weeks for the erection of a factory block at Neptune Road for the Thermal Syndicate Co. Ltd. The architects are L. J. Couves and Partners, Grainger Chambers, Hood Street, Newcastle upon Tyne; S. W. Milburn and Partners, 9 Esplanade, Sunderland are the architects for a factory warehouse at Middle Engine Lane for George Angus and Co. Ltd. No contracts let.

Wandsworth.—L.C.C. approved the adaptation of premises at 76 Putney Hill, as a mental health hostel. Estimated cost £5,960.

Westminster.—L.C.C. approved the rebuilding of Westminster Cathedral Roman Catholic primary school. Estimated cost £60,790.

Wood Green, Middx.—H. V. Sprince, architect and Edwards and Halls, quantity surveyors, both of 75/76 Blackfriars Road, London, S.E.1, have prepared plans for the extension to existing factory at Mayes Road, for The Caxton Chocolate Co. Ltd., Oscar Faber and Partners, Torrington House, Holywell Hill, St. Albans, Herts., are the consulting engineers for the scheme.

Woolwich.—L.C.C. approved a scheme for the erection of a Roman Catholic secondary school for 480 boys at Footscray Road, Eltham. Estimated cost £221,200.

Worcester.—City Council recommended to appoint Watkins and Decker, 13 Grays Inn Square, London, W.C.1, as quantity surveyors, for the erection of the junior department of Dines Green Primary School.

Worthing, Sussex.—B.C. recommended to approve, subject to conditions, outline application submitted by D. E. Bedford and Son, 1 Liverpool Terrace, Worthing, for the erection of an R.C. church with car parking facilities at "Westways", Hayling Rise, for The Trustees of the R.C. Diocese of Southwark.

DEMOLITION

Islington.—L.C.C. approved the acquisition, clearance and partial redevelopment of land in Bagford Street, estimated cost £25,000; and Hildrop Estate, extension 2, £43,600.

ELECTRICAL

Sheffield.—City Council recommended to appoint Ian Hunter and Partners, 46 Palmerston Place, Edinburgh, as electrical consultants for erection of a new divisional police headquarters at West Bar Green.

GAS AND WATER SUPPLY

Worcester.—City Council recommended to appoint T. and C. Hawksley, of 1 Great Scotland Yard, Westminster, London, S.W.1, as consulting engineers to carry out a survey of the Corporation water supply department, and to prepare a preliminary report upon a scheme for extending the treatment plant at the waterworks and the provision of additional service reservoirs; approve scheme for improving the water supply in Upper Newton Road. Estimated cost £1,250.

HOUSING SCHEMES

Aylesbury, Bucks.—R.D.C. recommended to approve amended layout for the new housing site at Haddenham by the erection of 54 dwellings and 33 garages.

Barking, Essex.—B.C. recommended to apply for planning approval for the erection of a day nursery together with 25 dwellings contained in a seven storey block of flats and a three-storey block of flats, a group of old persons' bungalows and 24 garages at Blake Avenue nursery site.

Billingham-on-Tees, Dur.—U.D.C. to proceed with scheme for the erection of 43 houses.

Chelmsford, Essex.—B.C. have appointed Low and Low, 10 Duke Street, Chelmsford, as quantity surveyors for the erection of new type terraced houses at Pump Lane housing estate.

Croydon, Surrey.—B.C. recommended to approve plans for the erection of 20 houses with garages, 18 flats and 19 garages at Knighton Hotel, Pampisford Road, for Wellwood Estates, Ltd., 2 Sloane Gardens, London, S.W.1; outline applications for 57 flats and 21 garages at Waldronhyrst Hotel, 28 Bramley Hill, for Lawdon (Builders) Ltd., 157 Victoria Street, London, S.W.1.

Fulham.—L.C.C. approved plans by C. Lovett Gill and Partners, 41 Russell Square, London, W.C.1, for the development of Burlington Road site. The scheme includes a four-storey block of 20 maisonnettes, a playground, 11 garages, five parking spaces and 10 tenants' stores. Estimated cost £61,900.

L.C.C. approved plans by R. Mountford Piggott and Partners, 3 Cromwell Place, London, S.W.7, for the development of a site between Pearsfoot Road and Sandilands Road. The scheme provides for 67 flats in a 17-storey block surmounted by two penthouse flats, 19 two-storey terrace houses in three blocks and a block of eight two-storey old people's flats, together with 49 tenants' stores, 46 garages, 20 parking spaces, a playground and a playspace. Estimated cost £334,200.

Guildford, Surrey.—B.C. recommended to defer the erection of 134 houses, shops and flats at Park Barn, shop and flat at Bellfields and 12 flats at Caxtons, London Road, owing to the present financial situation.

Hertford.—B.C. recommended to submit to Ministry for inclusion in the 1962 programme, schemes for 71 houses, 52 garages and alterations of roads at Sele Farm housing estate, £225,600; completion of roads and footpaths, etc., at Sele Farm housing estate, £38,700; 32 dwellings and 12 garages at Horns Mill housing estate, £101,700.

Hexham, Northumb.—Planning approval has been given for the erection of houses at Causey Hill, for R. C. Williamson, Ltd., Station Works, Rowlands Gill, Dur. The architect is J. D. Coxon, 14 Grey Street, Newcastle upon Tyne.

Middlesbrough, Yorks.—Corporation Housing Committee is recommending the erection of 378 houses and 330 garages on 28 acres of land at Ormesby Road.

Newcastle upon Tyne.—Plans have been prepared by M. and H. Gatoff, 26 Mosley Street, Newcastle for the erection of three-storey houses in Grace Street.

Poplar.—L.C.C. approved plans by Norman and Dawbarn, 7 Portland Place, London, W.1, for developing Cordelia Street site. The scheme will provide 24 dwellings in two four-storey blocks of maisonnettes connected by two-storeys of flats, two shops, a public house, six garages and 12 tenants' stores. Estimated cost £92,700.

Scunthorpe, Lincs.—B.C. recommended to approve in principle revised layout plan for proposed housing development in the Crosby Road area.

B.C. recommended to approve plans for 24 pairs of semi-detached dwellings, one detached house and 47 garages at Flixborough estate, for Drury Estates, Ltd., 92 London Road, Kettering.

Seaton Valley, Northumb.—U.D.C. intends building 172 houses on Murton Grange Estate, and 128 on the Westbourne Estate, during 1962.

Sheffield.—City Council recommended to grant planning permission to an outline planning application submitted by G. Handley, Ltd., 995 Ecclesall Road, Sheffield, 11, for erection of an 8-storey block of 56 flats with garages, a 3-storey block of 12 flats with garages, a house, a bungalow and lock-up garages at Endcliffe Hall Avenue and Endcliffe Grove Avenue.

Sheffield.—City Council recommended to approve lay-out plan for development of an in-filling site off Harborough Avenue, Manor Park Estate, by the erection thereon of 44 aged persons' dwellings; to appoint John Liveredge and Associates, 42 Portland Place, London, W.1, consulting structural engineers for erection of point blocks on land at Middlewood Road.

Southend-on-Sea, Essex.—B.C. recommended to prepare scheme for the erection of one-bedroom type dwellings at Blenheim Chase, site 29.

South Shields, Dur.—During 1962, the Corporation are to obtain tenders for the erection of 217 houses at Whiteleas, 62 at Brunswick, and 120 on the Simonside Estate.

Stockton-on-Tees, Dur.—R. W. Bell and Co. (Builders), Ltd., Mistletoe Road, Jesmond, Newcastle upon Tyne, are to erect 40 terrace houses and 22 garages at Darlington Lane, and plans have been approved.

Stoke Newington.—L.C.C. approved plans for the erection of a three-storey block of nine one-room flats for old people at 484 Seven Sisters Road. Estimated cost £23,900.

Stoke-on-Trent, Staffs.—City Council recommended to submit to Ministry proposal for 1,000 dwellings in 1962 programme.

City Council recommended to prepare scheme for the erection of old people's flats at Newhouse Road, Bucknall.

Tring, Herts.—U.D.C. have submitted to Ministry for approval plans for the erection of 103 houses on land behind Meadow Close.

Uxbridge, Middx.—B.C. propose, subject to Ministry approval, the purchase of Cowley Lodge, Station Road, for conversion into seven or eight old people's flats.

Wallsend, Northumb.—Corporation Housing Committee are to consider erecting houses between Durham Street West, and North View.

Worthing, Sussex.—B.C. recommended to approve, subject to conditions, outline application for the erection of a five-storey block of 33 flats with 33 garages at 19 and 21 Wallace Avenue, for George Wimpey and Co. Ltd., 26 Hammersmith Grove, London, W.6; plans for a four-storey block of 16 flats, a three-storey block of 18 flats, two garages and a car port at Broadwater Street, for Loxwood Developments, Ltd. (F. Trower, architect, 43 Teville Road, Worthing); outline application for two five-storey blocks of 40 flats and 40 garages at the junction of Durrington Hill and Arundel Road, for J. Sullivan (Goth and Partners, architects, 26 Regency Square, Brighton, 1); plans for 12 pairs semi-detached houses and garages, 22 bungalows and garages, and 14 pairs semi-detached bungalows and garages at plots 1-74, new road and cul-de-sac off west side Durrington Lane, south of Pond Lane, for Littlemark Development, Ltd. (A. C. Draycott, agent, 8 South Street, Lancing); outline application for four terrace houses, one block of four flats, four pairs semi-detached bungalows and three detached bungalows and garages at "Downsview Nursery", Greenland Road, for F. L. Saunders (Jordan and Cook, agents, 33 South Street, Worthing); plans for one nine-storey block of 36 flats with 38 garages at 103-107 Brighton Road, for Westminster Construction Co. Ltd. (Goth and Partners, architects); outline application for 78 flats and 78 garages at "Red Lodge", Seaview Road, "Seabright", West Parade, and land adjacent, for Seabright Investments, Ltd. (Morgan and Carn, architects, 12 Grand Avenue, Brighton, 3).

PLAYING FIELDS, PARKS, ETC.

Hampton, Middx.—South Middlesex area planning committee have approved plans for extensions to the Hatherop Road pleasure ground, by the inclusion of adjacent allotment land.

Horley, Surrey.—Co. E.C. recommended to approve the clearance, preparation and layout of playing field at Court Lodge County Secondary School. Estimated cost £4,882.

Reigate, Surrey.—Co. E.C. recommended to approve the clearance and preparation of playing field and provision of pavilion at the Grammar School. Estimated cost £6,351.

Scunthorpe, Lincs.—B.C. recommended to defer for one year the Ashby Ville recreation scheme.

Tolworth, Surrey.—Co. E.C. recommended to approve the provision of tennis courts at the County Secondary Boys' School. Estimated cost £12,148.

Uxbridge, Middx.—B.C. recommended to approve scheme for the development of Hillingdon Court Park for games and a children's playground.

RIVER AND FLOOD PREVENTION WORKS

Aylesbury, Bucks.—R.D.C. recommended to approve scheme to alleviate flooding of the Quainton-road manhole, Waddesdon, near the Council houses. Estimated cost £3,500.

ROADS, BRIDGES AND SITE WORKS

Bath, Som.—City Council have appointed, subject to M.T. approval, L. G. Mouchel and Partners, consulting engineers, Southbank House, Black Prince Road, London, S.E.11, for the construction of a new bridge over the Avon at Old Bridge.

Berkhamsted, Herts.—U.D.C. are preparing plans for the widening of the trunk road at Lagley, Berkhamsted, and from Darrs Lane, Northchurch.

Chatham, Kent.—B.C. recommended to approve plans for the making up of Kingsway and the ultimate widening of Boxley Road.

Cheam, Surrey.—Co. E.C. recommended to approve the clearance and preparation of tar-paved play area at Cheam Common County Junior School. Estimated cost £3,700.

Eastbourne, Sussex.—B.C. recommended to obtain tenders from Chittenden and Simmons, Ltd., Constable Hart and Co., Ltd., and George Wimpey and Co., Ltd., for the surfacing of carriageways included in the 1961-62 programme for minor improvements of highways.

High Wycombe, Bucks.—B.C. recommended to approve scheme and invite tenders in due

course for improvements to Green Road and Green Hill. Estimated cost £30,795.

Luton, Beds.—B.C. recommended to negotiate a tender with Sir Robert McAlpine and Sons, Ltd., 80 Park Lane, London, W.1, for the construction of clearways to complete phase one of the airport development programme.

Reading, Berks.—B.C. recommended to approve in principle, scheme for the construction of new bridge at Bridge Street.

Scunthorpe, Lincs.—B.C. preparing plans for the conversion of Queensway into a dual carriageway road, estimated cost £95,000; submit to Ministry for approval, scheme for road and sewer works in the Brigg Road/East Common Lane area, £7,000.

Sheffield.—City Engineer to prepare detailed scheme for improvement at the junction of Ben Lane and Far Lane, estimated cost £1,000; to be authorised to carry out widening and improvement of Stradbroke Road, between Sheffield Road and a point 165 yd. west of the junction with Bishop Hill, £22,000; widening and improvement of Matthews Lane, £15,700; construction of a traffic roundabout at the junction of Brightside Lane, Upwell Street and Hawke Street, £1,950; laying-out of undeveloped areas at Parkway wholesale markets, £3,337.

Southend-on-Sea, Essex.—B.C. recommended to proceed with the preparation of sketch plans for the provision of a new layout for the car ferry unit and detailed plans for the extension of runway 15-33 at the Airport.

Wood Green, Middx.—B.C. recommended to invite tenders from selected contractors for the resurfacing of district roads in Dense Bitumen Macadam.

Worthing, Sussex.—B.C. recommended to approve plans for the making-up of Lincoln Road (part), Cissbury Gardens (parts) and Canterbury Court.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Bath, Som.—Ministry have approved plans for the construction of a new surface water sewer and storm water relief sewer at Larkhall for City Council. Estimated cost £6,500.

Guildford, Surrey.—B.C. recommended to invite tenders from selected contractors for alterations to the sewage disposal works and installation of pumping equipment.

Reading, Berks.—B.C. recommended to approve scheme and invite tenders for the construction of a foul sewer at Hall's Road. Estimated cost £1,250.

STREET LIGHTING

Huntingdon and Godmanchester, Hunts.—B.C. recommended to invite tenders for the erection of 32 lamps to complete the scheme for improved street lighting upon class A roads.

CONTRACTS

Full details of the Contracts marked * will be found in our Advertisement Columns.

BUILDING AND DECORATING

(See also Housing Schemes)

Banbury, Oxon.—Applications are invited from contracting firms for inclusion on the approved list of contractors, for B.C. The list is divided into three sections as follows: (a) Building works which includes erection of municipal houses, other building works and maintenance work (painting and pointing); (b) road and sewer works which includes municipal housing estates, private street works and reconstruction of existing roads; (c) demolition works which includes slum clearance property and similar. Applications may be made for inclusion in respect of any or all of the above sections or sub-sections. Forms of application may be obtained on written application from J. E. Newton, borough engineer and surveyor, Municipal Buildings, Marlborough Road, Banbury. The closing date for receipt of applications will be October 23.

Barnsley, Yorks.—Erection of an underground control centre for Civil Defence for B.C. The work comprises new timber partitions, wall linings, drainage works, asphalt floors and roofs and electrical and plumbing work to the cellars of a former brewery. Documents from the Borough Engineer, Town Hall, Barnsley. Deposit £2 2s. Tender by Oct. 31.

Beckenham, Kent.—Additions to the brick-built pavilion at Churchfields recreation ground, Churchfields Road, for B.C. Documents from James Dove, borough engineer, Town Hall, Beckenham, Deposit £2. Tenders by October 25.

Belfast.—Complete electrical installation at Strandtown Primary School, North Road, for City Council. Documents from City Architect's Department, 40 Academy Street, Belfast. 1. Tenders by Oct. 19.

Belfast.—Alterations and additions to 18 May Street, for the Northern Ireland Scout Council. Documents from Walter I. Birt, quantity surveyor, 4 Malone Road, Belfast, 9. Deposit £5 5s. Tenders by Oct. 18.

Berkshire.—New offices at Thatcham Depot for C.C. Deposit £2. Tenders by Nov. 10.

Bingham, Notts.—Erection and construction of 11 garages at Queen's Road, Radcliffe-on-Trent, for R.D.C. Documents from Wm. Saunders and Partners, architects, of 24 Castle Gate, Newark-on-Trent, Notts. Deposit £3 3s., payable to Bingham R.D.C. Tenders by November 3.

Birmingham.—Erection of five showerbath cubicles at the existing works of the Salvage Department, Brookvale Road, Witton, for City Council. Documents from the General Manager, Salvage Department, Baskerville House, Civic Centre, Broad Street, Birmingham, 1. Tenders by Oct. 23.

Bury, Lancs.—Internal decoration of large pool and spray room at the Public Baths, St. Mary's Place, for B.C. Documents from Borough Engineer, Town Hall, Bury. Tenders by October 28.

Bury, Lancs.—Internal decoration, during Christmas vacation, of St. John's Junior School and prefabricated buildings at Church Central Secondary Modern School, for B.C. Documents from Borough Engineer, Town Hall, Bury. Tenders by October 28.

Bury, Lancs.—External painting of market huts, market stalls, and market storerooms, and the internal decoration of the market superintendent's offices etc., for B.C. Documents from Borough Engineer, Town Hall, Bury. Tenders by Oct. 21.

Cambridgeshire.—Erection of a garage and w.c., and ancillary work at Impington, Cambridge, for C.C. Documents from the County Surveyor, Shire Hall, Castle Hill, Cambridge. Tenders by October 23.

Cheadle and Gatley, Ches.—Construction of a strong room at the Town Hall, Cheadle, for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Cheadle. Tenders by October 18.

Cheltenham, Glos.—Improvement and extension of Yew Tree Cottage, Elmstone Hardwicke, for R.D.C., including the provision of drainage, hot water supply, kitchen, bathroom and additional bedroom. Documents from the Council's Surveyor, 16 Imperial Square, Cheltenham. Tenders by October 19.

Chislehurst and Sidcup, Kent.—Repainting approximately 370 25ft. and 520 15ft. columns for U.D.C. Documents from the Surveyor, Manor House, Sidcup. Deposit £2 2s. Tenders by Oct. 20.

Cork, Eire.—Improvements to Ballydehob Garda station, for the Office of Public Works, Documents from the Secretary, Office of Public Works, 51 St. Stephen's Green, Dublin, 2. Tenders by October 24.

Cork, Eire.—Erection of a gentlemen's public convenience at the Square, Bantry, for C.C. Documents from the County Engineer's Office, Courthouse, Skibbereen. Deposit £5 5s. Tenders by November 11.

Dingwall, Ross.—Erection of new slaughterhouse in Dingwall, for B.C. Site preparation, excavation, concrete, brick, drainage, carpenter and joiner, electrical and painter works. Also supply and erection of reinforced concrete portal frames. Apply to W. I. Talbot, quantity surveyor, Tulloch Street, Dingwall, by October 17. Plans seen at the office of the surveyors or at Matheson and Mackenzie, architects, Dingwall.

Douglas, I. of M.—Erection of an amusement arcade, at Port Soderick, for B.C. Application, in writing, for plans, etc., to the Borough Engineer and Surveyor, on or before October 14. Deposit £2 2s. Tenders by November 15.

Dover, Kent.—Repairs to 15, 16, 17 and 18 Maison Dieu Road, for B.C. Documents from the Borough Engineer, Brook House, Dover. Tenders by Oct. 21.

Dublin, Eire.—Erection of a telephone exchange at Phippsboro, for the office of Public Works. Documents from the Secretary, Office of Public Works, 51 St. Stephen's Green, Dublin, 2. Deposit £5. Tenders by November 7.

Dungannon, Tyrone.—Erection of sanitary accommodation and the provision of water and sewage services to the Ardboe Voluntary Primary School. Documents from W. and M. Given, architects and consulting engineers, 33 Molesworth Street, Cookstown. Tenders by Oct. 16.

Durham.—Following, for C.C.: Chilton Secondary Modern School—(a) sliding, folding screens, (b) vinyl tile flooring, (c) hardwood strip flooring, (d) hardwood block flooring, (e) electrical installation; Cambridge House Hostel, Barnard Castle—improvements to sanitation. Applications to the County Architect, South Street, Durham, by October 18.

Eastbourne, Sussex.—External painting Devonshire Park Theatre, etc., for B.C.

Applications by Oct. 18. Deposit £2. Tenders by Nov. 8.

East Sussex.—Erection of a health services centre at Portslade, for C.C. Apply to the County Architect, County Hall, Lewes, by October 16. Selected contractors will be provided with bills of quantities on November 14.

Epsom and Ewell, Surrey.—Repair and redecoration of Erle Cottage, London Road, Ewell, for B.C. Documents from the office of Colin Cobbett, borough engineer and surveyor, Town Hall, Epsom. Deposit £2 2s. Tenders by October 23.

Essex.—Additions to Maldon Health Services Clinic, for C.C. The work consists of alterations and additions in traditional construction, estimated cost £5,000. Applications to H. Conolly, county architect, County Hall, Chelmsford, by October 14.

Essex.—Laindon County Secondary School extension, for C.C. The work consists of the extension to an existing two-storey block, a new gymnasium and minor alterations, estimated cost about £48,000. Applications to H. Conolly, county architect, County Hall, Chelmsford, by October 14.

Fermanagh.—Construction of an old people's home, together with ancillary works (main building contract), for C.C. Documents from George McNeil, quantity surveyor, 29 Wellington Place, Belfast, 1. Deposit £10 10s. crossed cheques payable to the Secretary, Fermanagh County Welfare Committee. Plans seen at office of H. A. Paton, architect, 29 Wellington Place. Tenders by October 31.

Finchley, Middx.—Construction of public convenience, Stanhope Road, for B.C. Documents from the Borough Engineer and Surveyor, 294/296 Regents Park Road, N.3. Deposit £2. Tenders by Oct. 23.

Gosport, Hants.—Erection of mast store and club room, Lee-on-Solent Sailing Club, Marine Parade East, for B.C., comprising approximately 840 sq. ft. in area, and of brick construction with a timber flat roof. Documents from the Borough Engineer, The Hall, Trinity Green, Gosport. Deposit £2 2s. Tenders by November 8.

Holland.—Erection of a six class instalment of an eventual eight-class school at Sutton Bridge, Spalding, Lincs., for C.C. Documents from the County Architect, County Hall, Boston. Tenders by November 27.

Holmfirth, Yorks.—External painting of the council offices and caretaker's house, New Mill, for U.D.C. Documents from the Surveyor, Market Street, Holmfirth. Tenders by November 6.

Holmfirth, Yorks.—External pointing of 16 houses at Council Terrace, Honley, for U.D.C. Documents from the Surveyor, Market Street, Holmfirth. Tenders by November 13.

Hove, Sussex.—Erection of ladies' and gentlemen's conveniences in Goldstone Villas, for B.C. Documents from the office of the Borough Engineer and Surveyor, Town Hall, Hove, 3. Deposit £3 3s. Tenders by Oct. 23.

Huddersfield, Yorks.—Erection of 24 prefabricated concrete garages at Sherwood Avenue, Bradley, for B.C. Documents from the Borough Architect's Office, High Street Buildings, Huddersfield. Tenders by October 13.

Huntingdonshire.—Part internal redecoration of Coneygree Lodge Home for the aged, Stanground, for the Welfare Committee. Documents from S. M. Holloway, county architect, County Buildings, Huntingdon. Tenders by October 20.

Huntingdonshire.—Following for the Standing Joint and Magistrates Courts Committees: (a) Huntingdon police station—provision of garages and cycle storage; (b) Ramsey police station and magistrates court—retiling of roof. Documents from S. M. Holloway, county architect, County Buildings, Huntingdon, and firms desirous of tendering should indicate which items they wish to tender for. Tenders by October 20.

Irthlingborough, Northants.—Alterations to cinema premises, High Street East, for U.D.C., comprising mainly the levelling of floor, alterations to lighting, installation of windows and construction of toilet accommodation and kitchen. Submit names to O. C. Palmer, clerk of the Council, Council Offices, Irthlingborough, by Oct. 14.

Kesteven.—Erection of a new set of farm buildings, together with ancillary works at Thorpe Tilney Dales estate, holding 240, for C.C. Documents from the County Land Agent, County Offices, Sleaford, Lincs. Tenders by October 27.

Kingston-upon-Thames, Surrey.—Internal redecoration of first and second floors, etc., at the Guildhall, for B.C. Applications to the Borough Surveyor, Guildhall, Kingston-upon-Thames, by October 18.

Lancashire.—Provision of kitchen at the Prestwich Park View C.E. School, for C.C. Work includes demolition of existing single-storey brick extension and erection of traditional single-storey kitchen with quarry tile floor, felt roof, services, drainage, and finishes.

Applications to the County Architect, P.O. Box 26, County Hall, Preston, by October 16.

Leeds.—Roof repairs and pointing to the hospital chapel at St. James's Hospital, for the Leeds (A) Group Hospital Management Committee. Documents from the Superintendent Engineer, St. James's Hospital. Deposit £1 1s., payable to the Committee. Tenders by Oct. 23.

Maidstone, Kent.—One hundred and sixty-one garages, including roads and drainage works, and concrete hardstandings for 74 vehicles, at Shepway and Park Wood estates, for B.C. Contractors may tender for work on one or more of the sites concerned. Documents from the Borough Engineer, Palace Avenue. Manufacturers of prefabricated garages may submit tenders for this work. Tenders by November 14.

Manchester.—Erection of northern area fire station, Blackley, for City Council. Tenders by November 1.

Mold, Flint.—Adaptation of a chapel at Mold Cemetery to a Mortuary, for U.D.C. Drawings seen by appointment at, and documents from, the office of Favell, Bellis and Associates, architects, 17-19 Well Street, Ruthin. Deposit £1 1s. Tenders by October 30.

Morecambe and Heysham, Lancs.—Erection of one block of eight garages on the corporation coach park, Poulton Hall, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall, Morecambe and Heysham. Deposit £1. Tenders by November 3.

Neston, Ches.—External painting of 157 dwellings on various Council housing estates, for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Neston, Wirral. Tenders by October 17.

Newbury, Berks.—Reinstatement of fire damage at 70 Camp Close, for B.C. Documents from the Borough Surveyor, Municipal Buildings, Newbury. Tenders by October 30.

Norfolk.—Erection of an old people's home at South Wootton, King's Lynn, which will be a two-storey building, aggregate floor area 18,500 sq. ft., for C.C. Submit names to the County Architect, 27 Thorpe Road, Norwich, by October 20. Contractors selected will be supplied with bill of quantities about November 3. Drawings seen at the County Architect's Office, Norwich, or at 15 Nelson Street, King's Lynn, by appointment.

North Riding.—Erection of a new fire station at Reeth, for C.C. Application to the County Architect, County Hall, Northallerton, by October 18.

Pontefract, Yorks.—Erection of an abattoir and construction of access roads on a site at the junction of Knottingley Road and Water Lane, for B.C. Documents from the Borough Engineer, Municipal Offices, Pontefract. Deposit £2 2s. Tenders by October 23.

Renfrewshire.—External redecoration of houses at the following schemes, for C.C.: Lochwinnoch A (64), Lochwinnoch B (66), Lochwinnoch C (56), Lochwinnoch D (72); Elderslie A (98), Elderslie B (88), Elderslie C (96), Elderslie D (138), Elderslie E (142), Elderslie F (92); Neilston (66), Bishopston, Houston and Langbank (31); Eaglesham (24); Uplawmoor (16); Linwood (60). Contractors should make application to the County Engineer, 16 Back Sneddon Street, Paisley, indicating the schemes in which they are interested, by October 20.

Ripley, Derbys.—Repainting the Council Chamber at the Town Hall, for U.D.C. Details from H. Hillier, surveyor, Town Hall, Ripley. Tenders by October 30.

Rossington, Yorks.—Exterior and interior painting and decoration of the Memorial Hall at McConnell Crescent, for the Parish Council. Documents from J. A. Williams, surveyor, Nether Hall, Doncaster. Tenders by October 20.

Rothwell, Yorks.—Construction of a brick-built retired men's centre (approximately 23ft. by 14ft.) in Savile Road, Methley, for U.D.C. Documents from the Building Superintendent, Civic Buildings, Rothwell. Tenders by October 24.

St. Ives, Hunts.—Repairs and improvements to 22 council houses in Ramsey Road, for B.C. Documents from the Borough Surveyor at the Town Hall, St. Ives, Huntingdon. Tenders by October 23.

Salford, Lancs.—Alterations and new buildings at Oakwood Park for City Council. Deposit £3 3s. Tenders by Nov. 15.

Sandy, Beds.—Modernisation of 12 Council houses in Sandy, for U.D.C. Documents from the Surveyor, 7 St. Neots Road, Sandy. Tenders by October 21.

Sawbridgeworth, Herts.—Improvement of 20 houses at small gains for U.D.C. Deposit £2 2s. Tenders by Nov. 13.

Southampton.—Erection of new assembly hall, kitchen, etc., at St. Monica Primary School, for B.C. Applications in writing to Borough Architect, Civic Centre, Southampton by October 14. Tenders by November 20.

Southend-on-Sea, Essex.—Old people's home, Connaught Houses, Rochford, for B.C.

The contract comprises the erection of a single-storey old people's home, of a total floor area of about 15,000 super. ft., mainly of load bearing brick construction with pitched and flat roofs, external works, and works incidental thereto. Submit names to the Borough Architect, 30 Alexandra Street, Southend-on-Sea, by October 23. From such applications a selected list of tenderers will be made by the Committee and those selected will be notified and will be required to make a payment of a deposit of £2.

Stroud, Glos.—Interior decoration at subscription rooms, for R.D.C. Forward names and addresses to the Engineer and Surveyor, Council Chambers, High Street, Stroud. Tenders by October 21.

Sunderland, Dur.—Conversion into offices of the public reading rooms, Fawcett Street, for B.C. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by October 18.

Tipperary, Eire.—Reconstruction of Churches at Anacartey and Donohill, for Very Reverend Father O'Brien. Contractors may tender for one or both Churches. Documents from Desmond MacGreevy, quantity surveyor, 4 Merrion Square North, Dublin. Deposit £21, plans seen at the offices of the Quantity Surveyor, or Chevalier Patrick J. Sheehan, architect, 47 O'Connell Street, Limerick. Tenders by October 20.

Wakefield, Yorks.—Demolition, erection of new concert room, toilets, stage, heating chamber, alterations to cellar, bar and existing concert room, site-works, etc., at Wrenthorpe Working Men's Club. Submit names to the Secretary, Wrenthorpe Working Men's Club, Wrenthorpe Road, Wrenthorpe, near Wakefield.

***Wandsworth.**—Conversion of 46 Thrale Road into flats, etc., for B.C. Submit names by Oct. 18.

Wallasey, Ches.—Erection of library and clinic, Twickenham Drive, and library, Pasture Road, for B.C. Documents from the Borough Architect, Town Hall, Wallasey.

Walsall, Staffs.—Internal and external repairs and decorations Daisy Bank Annexe, Woodend, for the St. Margaret's Hospital Management Committee. Documents from A. T. Horton secretary, Great Barr, Birmingham 22a. Tenders by October 25.

Watford, Herts.—Builders' work in forming kitchen and service area under the grandstand for B.C. Applications to F. C. Sage, borough engineer and surveyor Town Hall, Watford, by 2 p.m., Oct. 16.

***West Kesteven, Lincs.**—Improvements to pre-war houses at Great Ponton and Stainby for R.D.C. Deposit £2 2s. Tenders by Oct. 27.

West Riding.—Following works at the home for the aged, The Beeches, Tadcaster, for C.C.: (a) Conversion of old storerooms into visitors rooms, rest rooms, sun lounge, library, etc.; (b) rebuilding of external male toilets, ash pound and bin store. Documents from the Divisional Architect, Salisbury Buildings, Albert Street, Harrogate. Tenders by October 30.

West Riding.—Conversion of cells to provide messing and toilet facilities at the Pateley Bridge Police Station, for C.C. Documents from the Divisional Architect, Salisbury Buildings, Albert Street, Harrogate. Tenders by November 10.

CLOTHING AND TEXTILES

Bedfordshire.—Supply of police uniform clothing, including shirts, collars and ties, for the year ending 31st December, 1962, for C.C. Documents from George Brewis, clerk to the standing joint committee, Shire Hall, Bedford. Tenders by November 13.

Manchester.—Supply of caps, helmets, gloves, waterproof clothing, women's white shirts and lightweight jackets and trousers for City Council. Documents from the Chief Constable, P.O. Box 51, Manchester. Tenders by Nov. 2.

***Westminster.**—Supply of uniform clothing for City Council. Tenders by Nov. 6.

DEMOLITION

Blaby, Leics.—Demolition and site clearance of The Crofts, 12 to 29 Church Street, Thurlaston, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Narborough, Leicester. Tenders by Nov. 4.

Cardiff.—Demolition of 2 air raid shelters, clearing of site and ancillary works, Radnor County Primary School, for City Council. Documents from the Building Maintenance Section, Trade Street, Cardiff. Deposit £2 2s. Cheques payable to the Cardiff Corporation and crossed Not Negotiable and Co. Tenders by October 25.

Congleton, Ches.—Demolition of properties in Lion Street, Victoria Street, Hardings Bank, Princess Street and Dane Street, including complete site clearance, for B.C. Documents from the Borough Engineer and Surveyor, Market Place, Congleton. Tenders by Oct. 20.

Isle of Man.—Demolition work, area Crellin Grove and Parish Hall, Andreas, for the Local Government Board. Documents from the Architect and Planning Officer, Isle of Man Local Government Board, Murray House, Douglas. Deposit £2 2s., payable to the Government Treasurer. Tenders by Oct. 19.

Middlesbrough, Yorks.—Demolition of the following, for B.C.: (a) Properties comprising the Granville Street C.P.O. 1960; (b) properties comprising part of the Commercial Street 1 C.P.O. 1959. To be let either separately or as one contract. Documents from Borough Engineer, Municipal Buildings, Middlesbrough. Deposit £2 2s. Tenders by November 6.

ELECTRICAL

Cork, Eire.—Electrical installations in the new Opera House. Documents from J. Varming and S. Mulcahy, consulting engineers, 10 South Mall, Cork and 4 Northbrook Road, Leeson Park, Dublin. Deposit £26 5s. Tenders by October 27.

Fermanagh.—Sub-contract for electrical work in old people's home for C.C. Documents from A. K. McAuslan and Partners consulting engineers, 16 Bedford Street, Belfast, 2. Deposit £5 5s., crossed cheques payable to the Secretary, Fermanagh County Welfare Committee. Plans seen at office of H. A. Paton, architect, 29 Wellington Place. Tenders by Oct. 31.

Middlesbrough, Yorks.—Replacing existing tungsten fittings with fluorescent fittings at Fire Brigade Headquarters, Park Road South, for B.C. Documents from the Borough Engineer, Municipal Buildings, Middlesbrough. Deposit £1 1s. Tenders by October 17.

FENCING

Beckenham, Kent.—Supply only of mild steel railings and gates, for B.C. Documents from the Parks Superintendent, Parks Department, Town Hall, Beckenham. Tenders by October 31.

Birmingham.—Supply of 5ft. 6in. by 4in. by 4in. and 2ft. 10in. by 5in. by 4in. reinforced concrete fencing posts to be supplied as required during the 12 months commencing November, 1, 1961, for City Council. Documents from J. P. Macey, housing manager, Housing Management Department, Bush House, Broad Street, Birmingham, 1.

Isle of Wight.—Supply and erection of approximately 486 lin. yd. of oak post and oak rail fencing and agricultural gates at Rowborough Lane, Brading, for C.C. Documents from the County Surveyor and Planning Officer, County Hall, Newport. Deposit £2 2s. Tenders by Nov. 6.

Southend-on-Sea, Essex.—New fencing and re-erection of existing fencing and minor paving works incidental thereto, at Westcliff High Schools, for B.C. Documents from the Borough Architect, 30 Alexandra Street, Southend-on-Sea. Tenders by November 1.

***West Kesteven, Lincs.**—Fencing housing sites at Colsterworth and Claypole for R.D.C. Tenders by Oct. 27.

GAS AND WATER SUPPLY

Brightlingsea, Essex.—Construction of sea defence works at Brightlingsea, for U.D.C. comprising mainly the reconstruction of the existing revetted slopes to the frontage, which extends over a length of approximately three-quarters of a mile, together with the construction of a limited number of groynes. Some flood protection and relief measures are also included in the form of heightening and strengthening the existing flood walls and the construction of relief sluices. The estimated value of the contract is of the order of £65,000, and the work is required to be completed as quickly as practicable. Tenders will only be considered from firms of approved experience in major works of coast protection and having the necessary resources to execute the works within about 15 months. Firms should apply giving full particulars of recent sea defence contracts which they have carried out to H. F. Tanner, clerk of the Council, Town Hall, Brightlingsea, by October 23.

Coleraine, Londonderry.—Supply of approximately 9,200 yd. of 8in. internal diameter spun iron class B gas main, for B.C. Documents from Engineer and Manager, Coleraine Borough Council Gas Department, Gas Works, Coleraine. Tenders by October 30.

Cork, Eire.—Supply of the following waterworks pattern sluice valves, for City Council: Double socket sluice valves to B.S. 78 to open clockwise, series 2, 12 6in. diameter, 60 4in. diameter; Kinetic pattern air valves, six 2in. valve size and six 3in. valve size, flanges to be based and drilled to B.S. table C. Prices quoted should include for delivery to the Corporation Yard, Anglesea Street, Cork. Sealed tenders, endorsed "Tender for Sluice Valves," addressed to the City Manager and Town Clerk, City Hall, Cork, by October 17.

Holmfirth, Yorks.—Laying of approximately 1,500 yd. of 3in./4in. water main at Stagwood Hill, Totties Lane, Binns Lane, Hobbie Drive and Woodale Avenue, for U.D.C. Documents from the Council's Water Engineer, Market Street, Holmfirth. Tenders by Nov. 6.

Mold, Flint.—Proposed pumping station, Chester Road, for U.D.C. The work comprises the construction of a small reinforced concrete underground pumping station, together with the provision and laying of approximately 137 lin. yd. of 5in. diameter cast-iron rising main. Documents from Ward, Ashcroft and Parkham, the council's consulting engineers, 38 The Temple, Dale Street, Liverpool, 2. Deposit £3 3s., cheque payable to Council. Plans seen either at the offices of the Consulting Engineers or at the Town Hall, Mold. Tenders by October 28.

***Penrith, Cumb.**—Supply and laying pipes for central and western area water supplies contract 1 for R.D.C. Deposit £2 2s. Tenders by Nov. 13.

***West Kesteven, Lincs.**—Ropsley Heath and Easton water supply and Colsterworth water supply improvements for R.D.C. Deposit £5 5s. Tenders by Oct. 27.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Thurso, Caithness.—Widening of The West Pier in steel piling and concrete, for The Seaboard Harbour Trustees. Documents from G. Gordon Nicol, consulting engineer, 21 Bridge Street, Aberdeen. Deposit £5 5s.

Wicklow, Eire.—Construction of jetty at Arklow Rock, for Roadstone, Ltd., Naas Road, Dublin. Documents from McCabe and Delaney, consulting engineers, 51 Northumberland Road, Dublin. Deposit £25. Tenders by November 1.

HEATING AND VENTILATING

Coleraine, Londonderry.—L.p.h.w. heating, hot, cold and drinking water and compressed air service installations, at Telephone Engineering Centre, Nursery Avenue, Coleraine, for the Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast 1. Tenders by October 23.

Coleraine, Londonderry.—Installation of electric heating in the parish church, for the churchwardens and select vestry of Camusjuxta-Bann Church, Macosquin. Documents from W. J. Bryan, secretary, Springwell Forest, Macosquin, County Londonderry. Deposit £2. Tenders by November 1.

Fermanagh.—Sub-contract for heating, ventilation and plumbing works in old people's home, for C.C. Documents from Abbott and Partners, consulting engineers, 16 May Street, Belfast. Deposit £5 5s. crossed cheques payable to the Secretary, Fermanagh County Welfare Committee. Plans seen at office of H. A. Paton, architect, 29 Wellington Place. Tenders by October 31.

***Leeds.**—Upgrading heating services in psychiatric block, St. James's Hospital, for the Regional Hospital Board. Applications by noon, Oct. 18. Deposit £2 2s. Tenders by Nov. 16.

Leicester.—Heating and hot water installation at old people's home, Stokes Drive, for City Council. Documents from the City Architect's Office, Halford House, Charles Street, Leicester. Deposit £1. Cheques payable to the City Treasurer, Leicester. Tenders by October 24.

Melton and Belvoir, Leics.—Installing hot water systems in pre-war council houses in the following villages, for R.D.C.: Contract (1) Long Clawson, 29; (2) Thorpe Satchville, five; (3) Waltham-on-the-Wolds, nine; (4) Wymondham, 11. These will be let as separate contracts. Documents from the Council's Engineer and Surveyor, at Warwick Lodge, Dalby Road, Melton Mowbray. Tenders by October 28.

Rochdale, Lancs.—Supplying and fixing a new oil-fired boiler and indirect hot-water cylinder at Brimrod and Howard Street Nursery Schools for B.C. Particulars from the Borough Surveyor, Town Hall, Rochdale. Tenders by Nov. 6.

***Scarborough, Yorks.**—Supply and installation of laundry equipment at St. Mary's Hospital, for Leeds Regional Hospital Board, applications by noon, Oct. 25. Deposit £2. Tenders by Nov. 30.

Sunderland, Dur.—Mechanical engineering services, including steam services, central heating, hot and cold water supply to the public abattoir and meat market, Fulwell, for B.C. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by October 23.

Taunton, Som.—Provision and installation of (a) 63 gas sink water heaters and (b) 83 electric sink water heaters, on the Lambrook, Lyngford and Wedlands estates, for B.C. Tenders are invited for one or both of the works. Documents from H. G. Cox, housing maintenance superintendent, Lambrook Farm Depot, Priory Avenue, Taunton. Tenders by October 31.

HOUSING SCHEMES

Beverly, Yorks.—Contract 490—four pairs of semi-detached houses and two blocks of two-storey one-bedroom flats at Woodmansey, for R.D.C. Documents from G. Palfreyman, architect and surveyor, 22 Laigate, Beverley. Deposit £1, cheque payable to Council. Tenders by November 1.

Boston, Lincs.—Thirty houses at Wood Farm Road for B.C. Deposit £2 2s. Tenders by Oct. 31.

Chislehurst and Sidcup, Kent.—Fifty-four dwellings—Gattons redevelopment estate, North Cray, Kent, for U.D.C. Contractors should apply immediately to Engineer and Surveyor, Manor House, Sidcup. Deposit £3 3s.

Coalville, Leics.—Sixty-six houses and flats on the Greenhill estate, scheme 10, for U.D.C. Applications in writing to the Engineer and Surveyor, Municipal Offices, Coalville, by October 16. Deposit £4 4s. Tenders by November 10.

Denholme, Yorks.—Four Homeville traditional houses on the Minorca housing estate, for U.D.C. Documents from the Surveyor, Council Offices, Denholme. Deposit £2 2s. Tenders by October 21.

Durham.—Following for C.C.: Harperly Hall Police Training School, hardboard under-floor and floor covering; standard police houses, Hylton Street, Castletown, erection of one pair with office; standard police houses, Dale Road, New Shildon, erection of single house with office; standard police houses, Durham Road, Birtley, erection of single house with office. Application to County Architect, South Street, Durham, by October 18.

Edinburgh.—Tenders for all trades in one undertaking (including demolition, road and site works) will be invited towards the end of November 1961, for the erection of 183 houses contained in two 20-storey blocks (153 houses) and one three-storey block (30 houses), at Couper Street (phase 1) in the Citadel and Central Leith comprehensive development area, for City Council. Applications, in writing, to the City Architect, City Chambers, Edinburgh, 1, by October 23.

Hastings, Sussex.—Three-storey block containing six small flats, together with five garages in All Saints Street, for B.C. Documents from the Borough Surveyor, 37 Wellington Square, Hastings. Deposit £2 2s., payable to Hastings Corporation. Tenders by November 13.

Honiton, Devon.—Thirteen houses, two bungalows and ancillary work at Station Road, Sidmouth Junction, for R.D.C. Documents from S. A. Morris, clerk of the Council, Offices, Manor House, Honiton. Deposit £2 2s. Tenders by October 20.

Huddersfield, Yorks.—30 dwellings at Heathfield for B.C. Deposit £2 2s. Tenders by Nov. 16.

Inverkeithing, Fife.—Fifty-eight houses of four types in 10 separate blocks with 13 lock-up garages, Roman Road first development, for B.C.—excavator, concrete and brick work; carpenter joiner and ironmongery; glazier work; slater, roof tiler and roughcast work; plumber work; plaster work; electrical work; painter work. Contractors should apply to Robert Mitchell, town clerk, Burgh Chambers, Inverkeithing, stating the trades for which they desire to be considered, by Oct. 23. Plans seen at the offices of Sir Frank Mears and Partners, architects, 46 Northumberland Street, Edinburgh; John G. Hardie and Son, quantity surveyors, 13 New Row, Dunfermline; and the Burgh Surveyor, Burgh Chambers, 17 Heriot Street, Inverkeithing.

Keynsham, Som.—Two, three-storey blocks each containing three flats and six maisonettes, a two-storey connecting block, 18 garages and pram stores, children's playground and ancillary works at the Broadlands estate, for U.D.C. Documents from the Architect, Council Offices, Keynsham. Deposit £2 2s., cheque payable to Council. Tenders by October 30.

Middlesbrough, Yorks.—Following, for B.C.: (a) 16 flats, eight flatlets and four bungalows—Westerdale Road; (b) seven bungalows—Rothbury Road; (c) 24 flats and 16 flatlets—Cottingham Drive. To be let either separately or as a combined contract. Documents from the Borough Engineer, Municipal Buildings, Middlesbrough, Deposit £2 2s. Tenders by November 6.

Norfolk.—Fireman's house at Fire Service Headquarters, Hethersett, for C.C. Documents from the County Architect, 27 Thorpe Road, Norwich. Tenders by November 7.

Northallerton, Yorks.—Five old people's dwellings at East Cowton, for R.D.C. Deposit £3 3s. Tenders by Oct. 30.

Norton-Radstock, Som.—Thirty-two dwellings at Hillside Avenue housing estate, Mid-somer Norton (comprising 8 bungalows, 16 flats and 8 houses), and the erection of 11 garages, for U.D.C. Documents from the Miles and Wills, council's architects, 18 Great

George Street, Bristol 1. Deposit £5, cheque payable to Council. Tenders by November 6.

Saltburn and Marske-by-the-Sea, Yorks.—Erection of a three-bedroom warden's cottage on pile foundations at Beechwood Avenue, Saltburn, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Saltburn-by-the-Sea. Deposit £2 2s. Tenders by Oct. 31.

Sevenoaks, Kent.—One block of four aging persons' flats, at West End, Kemsing, for R.D.C. Documents from the Engineer and Surveyor, Inglewood, Oak Hill Road, Sevenoaks. Deposit £2 2s. Tenders by October 31.

Sunderland, Dur.—(a) 217 and (b) 194 dwellings, at Town End Farm estate, for B.C. Documents (applicants to specify which required) from Borough Architect, Grange House, Stockton Road, Sunderland. Deposit £2 2s. each set, cheques payable to Sunderland Corporation. Tenders by October 24.

Thedwastre, Suffolk.—Six bungalows at Cockfield Road, Felsham, for R.D.C. Documents from J. H. Warren, architect, 5 Angel Hill, Bury St. Edmunds. Deposit £2 2s. Tenders by Nov. 8.

Thornaby-on-Tees, Yorks.—Thirteen bungalows at Scalby Square, for B.C. Documents from the Borough Engineer, Town Hall, Thornaby-on-Tees. Deposit £2 2s. Tenders by October 30.

Tynemouth, Northumb.—Block of 12 flats at John Street, Cullercoats, and a block of 24 flats at Elsdon Street, North Shields, for B.C. Documents from the Borough Surveyor, 16 Northumberland Square, North Shields. Deposit £2 2s. each scheme. Tenders by November 7.

Watford, Herts.—Eight traditional houses at High Road, Leavesden, on the site of Hope Cottages, for B.C. Applications to F. C. Sage, borough engineer and surveyor, Town Hall, Watford, by 2 p.m. October 18.

West Sussex.—House for headmaster at Northchapel (job 6639) for C.C. Applications to the County Architect, County Hall, Chichester, by October 14. Quantities will be issued on or about November 6.

West Sussex.—Following, for C.C.: (a) House and garage for district nurse at Pulborough (job 6817); (b) seven standard houses, one senior police officer's house, and four garages at Littlehampton (job 6936) (this contract to be phased in two parts). Firms should apply stating for which scheme(s) they wish to tender to the County Architect, County Hall Chichester, by October 16. Quantities will be issued on or about November 13.

Whitehaven, Cumb.—Fifty-six traditional type three-bedroomed houses at Richmond Hill, contract 2, for B.C. Documents from Borough Engineer, Town Hall, Whitehaven. Deposit £5 5s. Tenders by October 23.

MATERIALS AND SUPPLIES

Belfast.—Manufacture, supply and fitting of purpose-made furniture to laboratories and special subjects rooms in the new classroom block now under course of erection at St. Malachy's College Grammar School, Antrim Road, for the Board of Governors. Documents from McLean and Forte, architects, 37 Malone Road, Belfast 9. Deposit £3 3s., cheque. Tenders by October 18.

Bristol.—Supply of materials for City Council. Tenders by Oct. 28.

Bury, Lancs.—Supply of petrol, fuel oils and paraffin for the several departments of the Corporation, for B.C. Documents from the General Manager and Engineer, Bury Corporation Transport, Market Place, Bury. Tenders by October 21.

Derby.—Supply of stores for the year ending December 31, 1962, for B.C. Refined tar and creosote; tar and bituminous treated stone; cold bituminous emulsions; rolled asphalt; concrete pipes; ashes; ready mixed concrete; plastic white line road material. Documents from the Borough Engineer and Surveyor, Council House, Derby. Tenders by Oct. 20.

Durham.—Supply of sports shoes, etc., for C.C. Tenders by October 27.

Holywood, Down.—Supply only of a timber prefabricated pavilion, for the Board of Governors of Sullivan Upper School. Documents from Anthony F. Lucy and Co., architects, Lombard Chambers, 13 Lombard Street, Belfast, 1, or Albert Buildings, Church Street, Portadown. Deposit £5 5s., crossed cheques payable to the Secretary, Sullivan Upper School, Holywood. Tenders by October 24.

Northern Ireland.—Glazing works and supplies at Government establishments in Northern Ireland during the period ending 30th November, 1962, for the Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast, 1. Tenders by October 25.

Northern Ireland.—Ironmongery works and supplies required at government establishments in Northern Ireland during the period ending October 31, 1962, for the Ministry of

Finance. Documents from Room 103, Law Courts Building, Belfast 1. Tenders by October 19.

Staffordshire.—Supply of major equipment for metrology laboratory (category VI), at Stafford College of Technology, for C.C. Documents from the Director of Education (Supplies), County Education Offices, Earl Street, Stafford. Tenders by November 4.

Taunton, Som.—Supply of materials, for B.C. Tenders by October 28.

Wexford, Eire.—Hardware roofing tiles, felt, sanitary goods, etc., for 30 houses at John Street and 7 houses at Faythe, for B.C. Documents from John J. Byrne, town clerk, Municipal Buildings, Wexford. Tenders by October 28.

MISCELLANEOUS

***Nottinghamshire.**—Provision and erection of traffic signs on six miles of trunk road for C.C. Deposit £2. Tenders by Nov. 3.

Tottenham, Middx.—Supplying and fixing of sunshade boarding for display purposes at various schools in the borough, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall, Tottenham, N.15. Tenders by October 18.

PLANT AND MECHANICAL TRANSPORT

Aberdeen.—Supply of Following for City Council: One—14 cu. yd. crawler tractor shovel, with driver's cab, general purpose bucket and 3 tine scarifier, quoting an alternative price for substituting a clamshell bucket; one 15/20-cwt. vibrating roller, quoting an alternative price for a 30-cwt. diesel engine roller fitted with water tank and sprinklers to all rolls. The prices quoted must include free delivery to the Corporation Works Department, Jasmine Terrace, Aberdeen. The Corporation do not bind themselves to accept the lowest or any tender and parties tendering do so at their own expense. Offers, which should indicate approximate delivery delay, to the City Engineer, 3 King Street, Aberdeen, in a sealed envelope endorsed "Tender for C.W.D. Plant", by October 17.

Abertillery, Mon.—Supply of one fully-tracked Brayloader model BL25, for U.D.C. complete with bulldozer blade and digger teeth attachments, and number plates, driving mirrors, proof meter and sliding windows as ancillaries. The machine is to be painted by the manufacturers at works, lettered to the requirements and delivered to the council's depot at Abertillery, when two days' instructions to the Council's operator will be required to be given. The Council do not bind themselves to accept the lowest or any tender. Tenders in plain sealed envelopes, which must not bear any name or mark indicating the sender, endorsed "Tender for Brayloader" and indicating guaranteed delivery date and servicing facilities available, to John Evans, clerk of the Council, Council Offices, Abertillery, by noon October 13.

***Bishop's Stortford, Herts.**—Supply of refuse collection vehicle for U.D.C. Tenders by Oct. 28.

Cork, Eire.—Supply of two dumper trailers each with a gravity tipping skip of capacity 30cwt. and a loading height not exceeding 48in. mounted on pneumatic tyres and with brakes fitted suitable for road use and towing by self propelled dumpers or light pick-up trucks, for City Council. Tenders endorsed "Dumper Trailer" addressed to City Manager and Town Clerk, City Hall, Cork, by October 17.

***Keighley, Yorks.**—Supply of two tractors and one air compressor for B.C. Tenders by Oct. 23.

Leitrim, Eire.—Supply to Machinery Yard, Carrick-on-Shannon, the following, for C.C.: Five 7/8 ton diesel tipping lorries with twin hoists; one, 1500 gallon tar/bitumen tanker-sprayer complete; one 15cwt pick-up truck; four 800 gallon fuel storage tanks and fittings each equipped with a suitable electrically operated recording pump; one portable welding plant; one mechanical loading shovel. Full particulars of the plant offered are to accompany all tenders. Documents from the Secretary, Leitrim County Council, Courthouse, Carrick-on-Shannon. Tenders by October 27.

***North Riding.**—Supply of plant for C.C. Tenders by Nov. 13.

West Lancashire.—Supply of one new Ford 5 cu. yd. tipper and one new Ford 5cwt. van, allowing for a 1951 4 cu. yd. tipper, a 1959 Ford 5cwt. van and a 1960 Ford 5cwt. van to be taken in part exchange, for R.D.C. Documents from the Council's Engineer and Surveyor, 52 Derby Street, Ormskirk. Tenders by October 19.

PLAYING FIELDS, PARKS, ETC.

Lancashire.—Development of playing fields, etc., at Standish C.E. Primary School, Nelson Briarfield County Secondary School, for C.C. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by October 16.

Pembury, Kent.—Asphalting surround of roundabout and slide in recreation ground, for Parish Council. Documents from R. H. Chedzey, clerk to the Parish Council, 17 Maidstone Road, Pembury. Tenders by October 21.

RIVER AND FLOOD PREVENTION WORKS

***Devonshire.**—Withycombe Brook improvement scheme, E20 contract W1 for Devon River Board. Deposit £5 5s. Tenders by Nov. 27.

ROADS, BRIDGES AND SITE WORKS

***Aberdare, Glam.**—Pavement improvement works in Canon Street for U.D.C. Tenders by Nov. 3.

***Basildon, Essex.**—Improvement of Noak Hill Road, B.1007, for U.D.C. Submit names by October 16. Deposit £2 2s.

Belfast.—Construction of road Sewer and ancillary works at Sunninghill Park, Ballysillan Road, for City Council Documents from City Architect's Department (Housing Section), 97 Townsend Street, Belfast, 13. Deposit £5, cheques payable to Belfast Corporation. Tenders by October 31.

***Birmingham.**—Cul-de-sac adjoining Hillmount, for City Council. Deposit £2 2s. Tenders by November 1.

***Buckinghamshire.**—A.40/A.413 junction improvement, Tatling end for C.C. Deposit £2. Tenders by Oct. 30.

Burnham-on-Sea, Som.—Making up part of Donstan Road and the whole of Southend Gardens, Highbridge, for a total length of approximately 152 lin. yd. together with ancillary works, for U.D.C. Documents from G. Harvey Mayhew, engineer and surveyor, Manor House, Burnham-on-Sea. Deposit £2 2s. Tenders by October 20.

Chislehurst and Sidcup, Kent.—Road improvement—Sidcup Hill/High Street, Sidcup, for U.D.C., comprising the construction of 340 sq. yd. of 8 in. concrete, 380 sq. yd. of hot rolled asphalt together with kerbing and paving work. Documents from the office of the Surveyor, Manor House, Sidcup. Deposit £2 2s. Tenders by October 23.

Colne Valley, Yorks.—Reconstruction and improvement of Varley Road, Slaithwaite, for a length of approximately 220 yd., for U.D.C. Documents from the Council's Engineer and Surveyor, Town Hall, Cross Street, Slaithwaite, Huddersfield. Deposit £1 1s. Tenders by October 21.

***Croydon, Surrey.**—Reconstruction of mastic asphalt footways for B.C. Tenders by Nov. 17.

***Dover, Kent.**—Eastern docks approach road, stage 5, for B.C. Deposit £2 2s. Tenders by October 26.

Down.—Surface in single course asphalt the Lisburn/Lurgan Road (Route T3), for a length of 1,520 yd., in Moira, for C.C. Documents from C. A. Craig, county surveyor, County Surveyor's Office, English Street, Downpatrick. Tenders by October 24.

Exeter.—Summer Lane widening (Railway Bridge to Beacon Lane) for City Council, comprising the laying of approximately 481 lin. yds. of 9 in. surface water sewers, 3,129 sq. yds. of crushed stone carriageway with macadam surfacing, 717 sq. yds. of flagged footways, and other incidental works. Documents from John Brierley, city engineer and surveyor, Municipal Offices, 7 Southernhay West, Exeter. Deposit £2 2s. Tenders by Oct. 20.

***Fareham, Hants.**—Making-up the Ridgeway for U.D.C. Deposit £2. Tenders by Oct. 26.

***Farnborough, Hants.**—Construction of concrete bases for 94 garages, for U.D.C. Tenders by November 1.

Featherstone, Yorks.—Making up of Mount Pleasant Street, Ivy Street and adjacent back streets, for U.D.C. Works comprise construction of carriageway 3,400 super yd., footpaths 1,400 super yd. all in coated macadam and cold asphalt; 600 yd. kerbing and 900 yd. channelling, together with road drainage works. Documents from the Engineer and Surveyor, Town Hall, Featherstone. Deposit £2 2s. Tenders by October 18.

Gloucestershire.—Smerrill improvement, on Cirencester to Malmesbury Road, A.429, near Kemble, comprising excavation, carriageway diversion, accommodation and ancillary works, for C.C. Documents from County Surveyor, Quay Street, Gloucester. Deposit £5, payable to Council. Tenders by October 30.

Grimby, Lincs.—Construction of approximately 157 lin. yd. of 9 in. diameter sewer, 900 super yd. of carriageway, 590 super yd. of flagging and other ancillary works in the reconstruction of the unadopted length of Rydal Avenue, Fairfield, for B.C. Documents from J. V. Oldfield, borough engineer and surveyor, Municipal Office, Town Hall Square, Grimby. Deposit £5. Tenders by October 30.

Hampshire.—Construction of a second carriageway in conjunction with the improvement

of approximately 1 mile of trunk road A.30, Dummer with Kempshott Ganderdown which is approximately 4 miles south-west of Basingstoke, for C.C. The works include Earthworks, drainage, lean-mix concrete, macadam surfacing, hard shoulders, and other incidental works. Applications to H. N. Jenner, county surveyor, The Castle, Winchester, by October 20.

Hampshire.—Realignment and reconstruction of 500 lin. yd. of Paper Mill Lane, B.3004, Alton, for C.C. The works include excavation road foundations in gravel, lean concrete, bituminous macadam, drainage, and other incidental works. Application to H. N. Jenner, County surveyor, The Castle, Winchester, by October 16.

***Hayes and Harlington, Middx.**—Private Street works, Gledwood estate, for U.D.C. Deposit £2 2s. Tenders by November 14.

Hendon, Middx.—Improvement of Foster Street and construction of lay-by off Foster Street, New Brent Street housing site, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall, Hendon, by October 20. Deposit £2 2s., cheques payable to Corporation. Tenders by November 10.

***Hertford.**—Private street works—Hagsdell Road, for B.C. Applications in writing, by 9 a.m. October 18.

Hinckley, Leics.—Construction of roads (approximately 350 yd. long), foul and surface water sewers and incidental works at Red Hall Estate, Barwell (Kingsfield Road and Shenton Road) for U.D.C. Documents from the Surveyor, Argent House, St. Mary's Road, Hinckley. Deposit £2 2s. Tenders by Nov. 6.

***Hornchurch, Essex.**—Making-up Hood Road, MacLennan Avenue and Suttons Avenue (part) for U.D.C. Deposit £3 3s. Tenders by Oct. 30.

Leatherhead, Surrey.—Grading, seeding and footpath works at Great Bookham, for U.D.C. Approximately area to be graded, 3,300 sq. yd. Documents from the Engineer and Surveyor's Department, Red House, Leatherhead. Tenders by October 20.

Leicester.—Abbey Street improvement, for City Council: (a) 4,000 sq. yd. R.C. carriageway construction with two course asphalt surfacing; (b) 1,600 sq. yd. slabbed footway construction; (c) minor surface water drainage. Documents from John L. Beckett, city surveyor, Town Hall, Leicester. Deposit £1 1s. Tenders by October 26.

***Maidenhead, Berks.**—A.308, Marlow Road improvement, stage I for B.C. Deposit £2. Tenders by Nov. 8.

Maidstone, Kent.—Superelevation of Sheels Crescent with bitmac and cold asphalt, and the reconstruction of Mill Street with concrete and hot rolled asphalt, for B.C. Documents from Borough Engineer, Palace Avenue. Tenders by October 23.

Manchester.—Construction of 560 sq. yd. of carriageway, 44 lin. yd. of 15 in. diameter sewer, and ancillary works in the Miles Platting redevelopment area (Butler Street site), for City Council. Documents from the City Surveyor (Room 208), Town Hall, Manchester. Tenders by October 30.

Manchester.—Construction of 550 sq. yd. of carriageway, 50 lin. yd. of 9 in. sewer, and ancillary works, Charlestown Road housing site, Moston, for City Council. Documents from the City Surveyor (Room 208), Town Hall, Manchester. Tenders by October 30.

Newcastle-under-Lyme, Staffs.—Approximately 1,600 cu. yd. of excavation, 150 lin. yd. of 6 in. dia. combined sewer, 225 lin. yd. of kerbing and 1,350 sq. yd. of carriageway and footpath surfacing at Rogers Avenue for B.C. Documents from the Borough Engineer and Surveyor, Lancaster Building, High Street, Newcastle, Staffs. Tenders by Oct. 16.

Newtownabbey, Antrim.—Widening of a section of North Circular Road, for U.D.C. Documents from the Town Surveyor, Town Hall, Newtownabbey. Deposit £5. Tenders by Nov. 13.

Oxfordshire.—Construction of approximately 300 lin. yd. of new road, 18 ft. in width, together with ancillary surface water drainage works, on the county fire service headquarters site, Kidlington, for C.C. Documents from the County Surveyor, 8 New Road, Oxford. Tenders by Oct. 18.

***Oxfordshire.**—Supply and erection of Sonning backwater bridges, for C.C. Applications by October 26.

***Paignton, Devon.**—Widening and improvement of part of Preston Down Road for U.D.C. Tenders by Oct. 16.

Portslade by Sea, Sussex.—Making-up of Chalky Road (part), Valley Road (part), Stanley Avenue South for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Victoria Road, Portslade by Sea. Deposit £3 3s., payable to council. Tenders by Oct. 18.

Redcar, Yorks.—Construction of approximately 1,860 sq. yd. of flexible carriageway

and tarmacadam surfacing, and the provision and laying of 380 lin. yd. of precast concrete kerb and channel, together with gullies and 6 in. dia. connections to Coatham Enclosure for B.C. Documents from Borough Engineer, Ridley House, Coatham Road, Redcar. Tenders by Oct. 21.

***Rochester, Kent.**—Roads and sewers at Earl estate, stage 2, for City Council. Deposit £2 2s. Tenders by Nov. 6.

Salford, Lancs.—Widening and resurfacing of Weaste Lane from its junction with Eccles Old Road to Liverpool Street for City Council. Documents from City Engineer and Surveyor's Office, Town Hall, Salford. Tenders by Nov. 1.

Slough, Bucks.—Making-up of Ajax Avenue and Galvin Road for B.C., comprising approximately 7,200 sq. yd. of carriageway, 4,300 sq. yd. of footway and 750 sq. yd. of cycle track, together with appurtenant works. Documents from the Borough Engineer, Town Hall, Slough. Deposit £2 2s. Tenders by Oct. 30.

Southborough, Kent.—Construction of a lay-by for omnibuses at the junction of Yew Tree Road and Powder Mill Lane, for U.D.C. Documents from the Surveyor, Council Offices, Southborough. Tenders by October 19.

Staffordshire.—Making-up of Greenfield Road (part), off Overhill Road, Stafford (length 93 yd.) for C.C. The work includes excavating part of the existing carriageway, laying 3 in. and 6 in. depth of broken stone, 3 in. bituminous surfacing, concrete kerbs and channels, footpaths of 3 in. ashes and 1 in. bituminous macadam surface with 3 in. cold asphalt. It also includes laying 9 in. and 6 in. dia. surface water drain, with manhole and gullies. Documents from T. H. Evans, clerk of the county council, County Buildings, Stafford. Deposit £5. Tenders by Oct. 24.

***Stourbridge, Worcs.**—Reconstruction and widening of Glasshouse Hill (part), for B.C. Deposit £2 2s. Tenders by November 3.

Sunderland, Dur.—Construction of footpaths—Town End Farm phase II for B.C., comprising approximately 32,500 sq. yd. of 2 in. thick concrete flagging and approximately 5,600 lin. yd. of 6 in. x 2 in. concrete edging kerb. Documents from the Borough Engineer, 27 Fawcett Street, Sunderland. Deposit £2 2s., cheques payable to Sunderland Corporation. Tenders by Oct. 18.

***Twickenham, Middx.**—Making-up of Clive Road for B.C. Deposit £2 2s. Tenders by Oct. 30.

***Wallasey, Ches.**—Flagging and kerbing Riversdale Road and The Grove for B.C. Tenders by Oct. 18.

***Wanstead and Woodford, Essex.**—Private street works, Princes Avenue (part), for B.C. Deposit £2. Tenders by October 24.

Waterford, Eire.—Partial reconstruction of the bridge over the bywash at the Knockderry reservoir, for City Council. Documents from City Engineer, Office, 36 The Mall, Waterford. Deposit £5. Tenders by October 21.

***Willesden, Middx.**—Reconstruction of Acton Lane—Mordant Road, for B.C. Deposit £2 2s. Tenders by Oct. 31.

Willesden, Middx.—Reconstruction and resurfacing of Doyle Gardens—All Souls Avenue to entrance Willesden County Grammar School, for B.C., comprising the reshaping and resurfacing of approximately 1,300 lin. ft. of carriageway with cold asphalt in a residential area, the taking up and re-laying of kerb and artificial stone paving, together with a new footpath and ancillary works. Documents from the Borough Engineer and Surveyor, Town Hall, Dyne Road, N.W.6. Deposit £2 2s. Tenders by October 30.

Wolverton, Bucks.—Advance preparation (road foundations, sewers, etc.) at Calverton House estate for U.D.C. Documents from Engineer and Surveyor, Council Offices, Market Square, Stony Stratford, Bucks. Tenders by Oct. 17.

***Wrexham, Denbighs.**—Resurfacing footpath, Chester Road/Prices Lane/Glyndwr Road, for B.C. Deposit £2 2s. Tenders by October 30.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Beverley, Yorks.—Following for R.D.C. Contract 457, sewerage works, Dalton Holme, approximately 430 lin. yd. 4 in. and 6 in. sewers, manholes and concrete humus tank; contract 470 sewerage works, Figham Road, Woodmansey, approximately 360 lin. yd. of 4 in. and 6 in. sewers, small brick pump house and concrete well. Documents from G. Palfreyman, engineer and surveyor, 22 Lairgate, Beverley. Deposit £1, each contract, cheque payable to Council. Tenders by November 1.

***Bournemouth, Hants.**—Sludge disposal works at Berry Hill, contract s/x for B.C. Deposit £2 2s. Tenders by Dec. 8.

***Bournemouth, Hants.**—Generating station, etc., at Berry Hill, contract 5a for B.C. Tenders by Nov. 10.

***Cardiff.**—Cowbridge Road relief sewer for City Council. Deposit £2 2s. Tenders by Nov. 1.

***Cork, Eire.**—Extension of the public sewer to East End, Castletownbere, for C.C., comprising the laying of approximately 127 lin. yd. of 9 in. S.G. earthenware pipes together with all manholes, and ancillary works. Documents from the County Engineer's Office, Courthouse, Skibbereen. Deposit £5 5s. Tenders by November 11.

Downpatrick, Down.—Loughinisland sewerage consisting of the supply and laying of about 700 yd. of 4 in., 6 in. and 9 in. earthenware sewer pipe and the construction of a sewage treatment works, for R.D.C. Documents from Council Offices, Quoile Road, Downpatrick. Deposit £3 3s. Tenders by October 30.

Durham.—Bearpark sewerage and sewage disposal scheme for R.D.C. Sewers—the laying of approximately 1,600 lin. yd. of R.C. pipes, varying in size from 6 in. min. to 27 in. max. diameter, and the construction of 16 brick and concrete manholes and one overflow chamber. Sewage disposal works—comprising two Detritus channels, two upward flow sedimentation tanks, the conversion of three existing tanks into storm water tanks, two circular filters each 52 ft. diameter, modifications and repairs to two existing filters, humus tank, sludge digestion tank, six sludge drying beds, works pumping station and mess room, the demolition of old sewage works units and ancillary works. Documents from Eric G. Lediard, civil engineer, 4 Eldon Square, Newcastle upon Tyne, 1. Deposit £5 5s., cheque payable to council. Tenders by Nov. 27.

Easingwold, Yorks.—Newton-upon-Ouse sewerage and sewage disposal scheme for R.D.C., comprising construction of 1,000 lin. yd. of 6 in. diameter sewers with manholes and other ancillary work, 650 lin. yd. of 4 in. and 6 in. diameter house connections, 1,935 lin. yd. of 3 in. diameter rising main, two pump-houses and pumpwells and extensions to existing sewage disposal works at Linton-upon-Ouse. Documents from the Housing Surveyor, Council Offices, Stillington Road, Easingwold. Deposit £2 2s. Further details from the council's consulting engineer, D. H. Moore, Valley Bridge Parade, Scarborough. Tenders by Nov. 30.

***Howden, Yorks.**—Supply of plant for Bubwith and Foggathorpe and Newport and Gilberdyke sewerage schemes, for R.D.C. Deposit £3 3s. each contract. Tenders by October 27.

Kidderminster, Worcs.—Construction of approximately 110 lin. yd. of 6 in. diameter glazed stoneware pipes, together with inspection chambers and other appurtenant works at Manor Farm, Stourport-on-Severn, for B.C. Documents from J. G. Stewart, borough engineer and surveyor, 110 Mill Street, Kidderminster. Tenders by October 23.

***King's Lynn, Norfolk.**—Construction of Campbell's pumping station for B.C. Deposit £2 2s. Tenders by Nov. 10.

Launceston, Corn.—South Petherwin sewerage and sewage disposal scheme, for R.D.C., comprising the laying of approximately 2,770 lin. yd. of 6 in. diameter glazed stoneware pipe sewers and 100 yd. of 6 in. diameter spun-iron sewers, together with concrete manholes, ventilating columns, pumping station and sewage disposal works, and all ancillary works. Documents from G. L. Davey, clerk of the Council, Council Offices, 20 Western Road, Launceston. Deposit £5 5s., payable to Council. Tenders by October 30.

Lincoln.—Ox-pasture pumping scheme, for the Upper Witham internal drainage board. (a) The demolition of an existing brick arch bridge over the Wigsley drain, and the construction in place thereof of a reinforced concrete road bridge supported on piles over three spans of 20 ft.; (b) the underpinning of railway bridge 100 on the line between Clifton-on-Trent and Doddington and Harby, involving the driving of steel sheet piles and the construction of reinforced concrete toe walls and slabs. Documents from the Engineer's Office, 39 St. Catherine's, Lincoln. Deposit £3, plans seen at Engineer's Office by appointment. Tenders by November 8.

***Malmesbury, Wilts.**—Sewerage and sewage disposal works at Great Somerford and Little Somerford, for R.D.C. Deposit £5. Tenders by November 24.

Newburn, Northumb.—Construction of approximately 570 yd. of 6 in. to 12 in. diameter pipe sewers with manholes and other incidental works at West Denton for U.D.C. Documents from the Engineer, Council Offices, Newburn. Deposit £2 2s. Tenders by Oct. 23.

***Newcastle-under-Lyme, Staffs.**—Grosvenor Gardens and Vessey Terrace sewerage, for B.C. Tenders by October 18.

Queensferry, Midlothian.—Construction and reconstruction of sewers in South Queensferry for B.C. The work will comprise of

about 1,000 yd. reinforced concrete and spun iron pipes in trench and on concrete piers, of diameters from 6 in. to 24 in., and ancillary works including a crossing under the railway and a sea outfall. Submit names to the consulting engineers, Babbie, Shaw and Morton, 17 Blythswood Square, Glasgow, C.2, by Oct. 16.

Rye, Sussex.—Sewerage and sewage disposal works for B.C.: (a) the providing and laying of about 4,200 lin. yd. of 6 in. to 12 in. diameter and 900 lin. yd. of 15 in. to 36 in. diameter sewers, with manholes, the greater part to be in reconstructing the existing sewerage system in the town; (b) the providing and laying of about 3,000 lin. yd. of 4 in. to 21 in. diameter spun-iron pumping mains, with river outfalls; (c) the construction of seven pumping stations on sewers, pumping plant complete with control gear and electrical wiring will be supplied by nominated contractor and erected under his supervision; (d) the construction of new sewage treatment works comprising detritus, settlement, s.s. and humus tanks, four rotary percolating filters, sludge drying beds and pumping station. Pumping plant supplied and erected as under (c). Civil engineering contractors who are specialised in this type of work, and interested in tendering for the above, should submit their names to the consulting engineer, C. H. Dobbie and Partners, 58 Victoria Street, Westminster, S.W.1, not later than October 19, 1961, and when ready, the specification, bill of quantities and form of tender will be supplied on payment of a deposit of £5 5s., which will be refunded on receipt of bona-fide tender.

***Slaidburn, Yorks.**—Supply and erection of sludge stirring mechanism, for the Fylde Water Board. Tenders by November 6.

Southam, War.—Warrington sewerage for R.D.C.: (a) Laying of approximately 1,300 lin. yd. of 6 in. diameter g.s.s. and 470 lin. yd. of 6 in. diameter s.i. sewers, together with the construction of relevant manholes; (b) construction of a sewage disposal works consisting of two septic tanks capacity 9,000 gallons, one percolating filter, 183 cu. yd., two humus tanks capacity 2,050 gallons and a sludge, etc., pumping station, together with the necessary drains, chambers, etc.; (c) house connections. Applications must be accompanied with the names and addresses of three engineers under whose direction similar schemes have been carried out by the applicant, to W. Herbert Bateman and Partners, consulting engineers, Chesterfield House, Bathaston, Bath. Deposit £5 5s. Plans seen by appointment at the office of the Consulting Engineers or the Council Offices, The Grange, Coventry Road, Southam. Tenders by Nov. 10.

West Kesteven, Lincs.—(a) Small sewage disposal plant to serve 12 dwellings at Carlton Scroop; and (b) approximately 300 yd. of outfall sewer and small sewage disposal plant to serve 19 dwellings at Fulbeck, for R.D.C. Submit names to the Surveyor, Council Offices, Sandon Close, Grantham, by October 14. Deposit £2 2s.

Worsley, Lancs.—Supply and installation of four electrically powered sewage pumps for the Sewage Disposal Works—Interceptor Sewer Pumping Station, for U.D.C. The pumps are to be vertical-shaft type and each will be required to pump 1,000 g.p.m. against a head of 23 ft. The tender is to include for Neflete electrodes and controller and switchboard for the four units. Documents from the Engineer and Surveyor, Town Hall, Walkden, near Manchester. Tenders by October 30.

STREET LIGHTING

Ashford, Kent.—Provision and erection of 28 25 ft. lighting columns and ancillary works for U.D.C. Documents from the Surveyor, 1 Elwick Road, Ashford. Tenders by Oct. 23.

Chesterfield, Derbys.—Following for the A.61 Exeter-Leeds trunk road, for B.C.: (1) Supply of 165 tubular steel columns of 25 ft. mounting height and three steel wall brackets and boxes; (2) supply of 157 by 140-W sodium group A medium angle beam side entry lanterns and one post-top by 140-W group A sodium lantern; (3) supply of 17 three by 80-W fluorescent lanterns, complete with lamps and gear for side entry mounting, with an alternative quotation for 17 400-W colour-corrected mercury lanterns, complete with lamps and gear; (4) supply of 158 140-W sodium lamps, complete with gear; (5) erection of 165 25 ft. steel columns and three wall brackets and removal of 146 concrete 25 ft. columns. Contractors may tender separately for any item or all items. Documents from the Borough Engineer's Office, Town Hall, Chesterfield. Deposit £2 2s. Tenders by October 30.

***Dartford, Kent.**—Group A street lighting, town centre approach roads, part II for B.C. Deposit £2 2s. Tenders by Nov. 1.

Penybont, Glam.—Provision and erection of 58 100-W M.F. lamps and 20 60-W sodium lamps on precast concrete columns on various housing sites in the Council's area for R.D.C. Documents from the Engineer and Surveyor, Penybont Offices, Coity Road, Bridgend. Deposit £2 2s. Tenders by Oct. 18.

INTERNATIONAL CONTRACTS

New South Wales.—Deepening of navigable channels at Newcastle Harbour to a depth of 37 ft. contract 20-60/61 H. and R., for the Department of Public Works. The work involves the dredging and disposal of some 800,000 cu. yd. of silt and loose material and 600,000 cu. yd. of rock. Specifications, which include small scale reproductions of all relevant plans, may be examined at, or purchased for £54 per copy from the New South Wales Government Offices, 56 Strand, London, W.C.2. Contact prints of plans from the Department of Public Works, Sydney, at £A3 10s. per set of 14 prints. Individual prints can be provided at A5s. per print. Tenders by Oct. 30.

***West Pakistan.**—Butterfly valves for the Indus Basin project for the Water and Power Development Committee.

***West Pakistan.**—Fixed-wheel gates for the Indus Basin project for the Water and Power Development Committee.

AWARDS

BUILDING AND DECORATING

(See also Housing Schemes)

Aberdeen.—Erection of a new radiotherapy unit at the Royal Infirmary at Foresterhill for the North Eastern Regional Hospital Board—Donald C. Stewart, Bridge of Don, Aberdeen, £96,813 (accepted); A. Hall and Son (Builders), Ltd., £99,191; Don (Contractors), Ltd., St. James's Place, Inverurie, £100,395; James Scott and Son, Ltd., Union Street, Aberdeen, £110,543.

Ballymena, Antrim.—Sinking of boreholes on a new school building site at Doury Road, Ballymena, for Governors of Ballymena Academy, including for drilling boreholes and analysis of soil samples. McCutcheon and Wilkinson, architects, 34 High Street—The Cementation Co., Ltd., Belfast. Work commencing this month.

Banstead, Surrey.—Adaptations and extensions at the county secondary school for Co. E.C.—Whyatt (Builders), Ltd., 225 Streatham High Road, London, S.W.16, £228,987 (recommended).

Bath, Som.—Conversion of three houses at Queen Square into a library for City Council—E. Chancellor and Sons, Lambridge Works, Gloucester Road, Bath, £11,399.

Beddington, Surrey.—External repairs and redecoration at two cottages at Carew Manor School for Co. E.C.—F. J. Brooks and Co., Ltd., 20 West Street, Sutton, £680 (recommended).

Bilston, Staffs.—Erection of a new swimming baths on a piled foundation with reinforced in-situ concrete framework beams, floors, slabs and pond, etc., to include subways at ground level, for B.C. Also entrance hall, scholars rooms, changing rooms, showers and toilets with promenade and gallery above ground level, first floor refreshment room and external car park—Wilson Lovatt and Sons, Ltd., Clarence Street, Wolverhampton, estimated cost £240,000. Simister and Marshall, architects, 38/39 Congreve Street, Birmingham, 3, and Branson and Chester, quantity surveyors, Norwich Union Chambers, Congreve Street, Birmingham, 3.

Birmingham.—Following for City Council: Remodelling Redhill Primary School—R. Blayney and Sons, Ltd., Alcester Road, Wythall, Birmingham, £14,899; 118 garages, Yardley and Marlborough areas—Thomas Lowe and Sons, Ltd., Curzon Street, Burton-on-Trent, £24,372; 170 garages, Kings Heath and Warstock areas—M. Woods, Ltd., 76a Alcester Road South, Kings Heath, Birmingham, 14, £43,208.

Boston, Lincs.—Central linen and sluice room at General Hospital for Sheffield Regional Hospital Board—S. Blackham and Son, Boston, £6,750 (recommended).

Brantree and Bocking, Essex.—Construction of a brick sports pavilion at King George's Field (approximate extremities 110 ft. by 44 ft. by 16 ft.), machinery garage, car park, demolition of old timber pavilion, and ancillary works, for U.D.C.—D. Cameron and Hutchinson, Barclay Bank Chambers, Rayne

- Road, Braintree, £18,898. Work commenced.
- Bromley, Kent.**—Following for B.C.: Supply and erection of 10 lock-up garages at Chilham Way—Portable Concrete Buildings, Ltd., Ironside Works, East Adderbury, near Banbury, Oxon, £1,771.
- Conversion, repair and redecoration of 3 Newman Road—S. E. Wright and Son, Ltd., Lewes Road, Bromley, £1,107; construction of a pavilion and public conveniences at Norman Park—W. J. Eaglen, Ltd., 6 Dorset Road, London, S.E.9, £7,700 (recommended).
- Camberley Surrey.**—Extension of classroom with cloakroom at Old Dean County Primary School and adaptations, repairs and redecoration at Wishmore Cross, for Co. E.C.—A. Cavey (Bisley), Ltd., Guildford Road, Bisley, £4,432, and Deeks and Steere, Ltd., The Tanners, Meadow, Godalming, £11,426, respectively (recommended).
- Carlisle, Cumb.**—Erection of Newlathes Junior School for E.C.—Border Engineering Contractors, Ltd., 134 Queen Street, Whitehaven, £61,600 (recommended).
- Carshalton, Surrey.**—Provision of dental clinic, etc., at Rochester Road, for Co. E.C.—Garrad and Sons, Ltd., Sandown Road, Coulsdon, £6,777 (recommended).
- Colchester, Essex.**—Erection of a public convenience in recreation ground, Old Heath Road, for B.C.—Direct Labour, £1,798.
- Derby.**—Canteen, shop and hair-dressing salons at Kingsway Hospital, for Sheffield Regional Hospital Board—W. Ford and Sons (Contractors), Ltd., Derby, £11,600 (recommended).
- Dorking, Surrey.**—External and internal redecoration and improvements to kitchen at Starhurst Hostel for Co. E.C.—Burberry and Son, 86 Somerset Road, Meadvale, Redhill, £960 (recommended).
- Dundee, Angus.**—Erection of a multi-storey hotel in connection with the Overgate area redevelopment, for the Scottish and Newcastle Breweries, Ltd.—main contractor, Charles Gray (Builders), Ltd., Dundee; reinforced concrete design work and reinforced steel supply—Grip Steel Bar Co., Ltd., Princess Street, Manchester, 1; structural steelwork—Redpath Brown, Ltd., Edinburgh. Ian Burke, Martin and Partners, architects, 11 South Tay Street, Dundee, and J. Seymour Harres and Partners, quantity surveyors, 4 Greenfield Crescent, Birmingham, 15.
- Esher, Surrey.**—Adaptations and extensions and renewal of heating and telephone installations at the county library headquarters for Co. E.C.—John Hall Scott, Ltd., 64 Woodfield Lane, Ashted, £12,630 (recommended).
- Fermanagh.**—Supply and erection, on a prepared base, of structural steelwork for an old people's home at Coleshill, Enniskillen, for County Welfare Committee. H. A. Patton, architect, 29 Wellington Place, Belfast, 1—R. J. McKinney, Ltd., 195 York Road, Belfast, 15, £5,226.
- Fetcham, Surrey.**—Construction of Bell Lane County Primary School, for Co. E.C.—Uden and Co. (Epsom), Ltd., 53 South Street, Epsom, £72,145 (recommended).
- Frimley and Camberley, Surrey.**—Construction of an additional 16ft. by 20ft. lecture room at the Civil Defence Headquarters, Frimley Road, Camberley, for U.D.C.—Frank C. Bath and Co., Ltd., Gordon Road, Camberley, £817 (accepted); H. Crook (Aldershot), Ltd., £835.
- Fulham.**—Repair, improvement and redecoration of the Hugon Road annexe to Hurlingham School for L.C.C.—Buckingham and Sons, Ltd., 45 Vivian Avenue, London, N.W.4, £23,000 (accepted); A. H. Franklin and Sons, Ltd., £25,620; J. M. Hill and Sons, Ltd., £29,812; Clemens Bros., Ltd., £30,546; Walter Gladding and Co., Ltd., £32,809; S. C. Grover, Ltd., £33,869.
- Graham, Lincs.**—Improvements to labour room at Sleaford Maternity Home, for Sheffield Regional Hospital Board—Fosters Builders, Graham, £5,580 (recommended).
- Grays, Essex.**—Conversion of the Regal Cinema, New Road, into a bowling centre—F. G. Minter (Decorations), Ltd., 4 Buckingham Gate, London, S.W.1. Estimated cost £25,000. Carl Fisher and Associates, architects, 56 Portland Place, London, W.1. and Reddick and MacDonald, quantity surveyors, 119 Victoria Street, London, S.W.1. Work commenced.
- Guildford, Surrey.**—Following for Co. E.C.: Extension of Bellfields playing field depot—R. Smith, Railway Yard, Guildford Station, Guildford, £1,399; adaptations at the county technical college—H. W. Frampton and Co., 75 North Street, Guildford, £2,276; alterations and adaptations at Sunnysdown Special School—Keil and Vevers, Ltd., 145 Frimley Road, Camberley, £4,993 (recommended).
- Guildford, Surrey.**—Repair and improvement of 1 and 2 Park Cottages, for B.C.—Groves of Guildford (Builders), Ltd., 1 Leas Road, Guildford, £2,438 (recommended).
- Hampstead.**—Erection of a warehouse and offices at Blackburn Road, for Eskimo Foods, Ltd.—Howard Farrow, Ltd., Highfield Road, Golders Green, London, N.W.11. Manning and Clamp, architects, 37 Norfolk Street, W.C.2. Jenkins and Potter, consulting engineers, 12-15 Great Turnstile, London, W.C.1. Monk and Dunstone, quantity surveyors, 122 Chancery Lane, London, W.C.2. Estimated cost £50,000. Work commenced.
- Holyhead, Anglesey.**—External painting of 166 houses on the Morawelon housing estate for U.D.C. F. W. Jones, engineer and surveyor—I. Edwards, Newborough, Anglesey, £1,600. Work commenced.
- Horley, Surrey.**—Erection of Yattendon County Primary School for Co. E.C.—Bishop and Clarke, Ltd., 17 Albert Road, Horley, £71,931 (recommended).
- Huntingdon and Godmanchester, Hunts.**—Erection of six-unit factories for B.C.—F. B. Thackray and Co., Ltd., St. Peters Hill, Huntingdon, £26,394 (recommended, subject to Ministry approval); Gates Bros., Ltd., £26,572; G. B. Brudenell, Ltd., £26,731; B. A. Evans (Builders), Ltd., £28,258; A. J. G. Potter and Sons, Ltd., £29,075; Arthur Sanders, Ltd., £32,586; W. and C. French, Ltd., £33,673.
- Ilford, Essex.**—Following for B.C.: Alterations at Fairlop Secondary School for Girls—Malthouse (Builders), Ltd., 48 Wellington Street, London, S.E.18, £3,239; bowls pavilion at Valentines Park—Coulter and Reynolds, Ltd., 59 Court Way, Colindale, N.W.9, £8,676 (recommended).
- Islington.**—Provision of piled foundations for new buildings at the Northern Polytechnic for L.C.C.—Soil Mechanics, Ltd., 65 Old Church Street, London, S.W.3, £25,262 (accepted); McKinney Foundations, Ltd., £29,428; The Cementation Co., Ltd., £32,412.
- Kingston-upon-Thames, Surrey.**—Erection of a timber administration building at King Athelstan County Infants' School for Co. E.C.—Swiftlan, Ltd., 39 Victoria Street, London, S.W.1, £1,550 (recommended).
- Kingston-upon-Thames, Surrey.**—Development of the Surbiton Road/Penhryn Road site for B.C.—Gable Construction Co., Ltd., Burham, £70,490 (recommended, subject to Ministry approval).
- Leicester.**—Erection of a slaughterhouse in the Cattle Market for the Leicester Slaughterhouse Co., Ltd.—G. Duxbury and Sons, 73 Church Gate, Leicester, estimated cost £108,000. Arthur Swift and Partners, architects, 21 Upper Grosvenor Street, London, W.1. Cyril V. Harrison, quantity surveyor, 106 Jermyn Street, London, S.W.1. and W. V. Zinn and Associates, structural engineers, Eagle Street, Southampton Row, London, W.C.1. Foundation work commenced.
- Lincoln.**—Erection of home for the elderly, Ermine estate, for City Council. R. R. Alexander, city architect—H. Dorrington and Sons, Ltd., Spital Terrace, Gainsborough, Lincs., £61,985. Work commencing Nov. 1.
- Liverpool.**—Following for City Council: Work comprised in sections of the Vyrnwy Aqueduct painting contract, 1961—sections 5 to 13 inclusive—W. D. Ward, 52 Cambria Avenue, Ellesmere Port, Ches., £1,507; sections 14 and 15—H. A. Vickers and Sons, Park View, Bunbury, Ches., £260; sections 16 to 19—G. Heath, 23 Forest Road, Tarporley, Ches., £680; sections 26-31—C. Barber, 2 Park Avenue, Widnes, Lincs., £1,040.
- Renewal of roof lights to public laundry at Lodge Lane and renewal of roof of private baths at Speke Road—Mellows and Co., Ltd., Bridge Street, Sheffield, 3. Estimated cost £1,129 (all recommended).
- London.**—Erection of the superstructure of new offices at Coleman Street, E.C.2, for Swiss Bank Corporation, David du R. Aberdeen and Partners, architects, 19 Southampton Place, London, W.C.1—Holloway Bros. (London), Ltd., 157 Millbank, London, S.W.1. Estimated cost £600,000.
- Erection of a seven-storey office block at Moorgate, E.C.2, for Winmoor Properties, Ltd.—Griggs and Son, Ltd., 56 Victoria Street, London, S.W.1. S. M. Haines, architect, 119 Preston Hill, Harrow, Middx.
- Luton, Beds.**—Following for B.C.: Construction of a multi-storey car park at Regent Street—Holland & Hannen and Cubitts (Great Britain), Ltd., 1 Queen Anne's Gate, London, S.W.1, £118,000 (recommended, subject to conditions).
- Structural alterations and additions at the fruit market—Tring and Smith, 60 Queen Street, Luton, £2,273.
- Central depot at Portland Road/Kingsway, stage 1, vertical patent glazing, lantern light and pressed steel sills—Henry Hope and Sons, Ltd., 17 Berners Street, London, W.1, £2,429; asbestos roofing and vertical cladding—Hall and Co., Stevenage, Herts, £6,235; metal windows—Ideal Casements (Reading), Ltd., Reading, £1,732.
- Modernisation of 12 and 14 houses at Cannon Lane, Hayes Close and Putteridge Road—V. Bonham and Sons, Dunstable, £7,094, and F. Todd, 5 Oxen Road, Luton, £7,974, respectively; provision of balustrading and staircases at the new central library—Finch Engineering, Ltd., Belvedere Works, Sherwood Road, Barking, Essex, £1,309, supply of huffed classroom and greenhouse for the provision of a rural science unit at Stopsley Secondary School—S. Gilbert, Ltd., Luton, £1,616 (recommended).
- Construction of base and finishing of rural science unit at Stopsley Secondary School—M. W. J. Connolly (Luton), Ltd., Luton, £1,583 (recommended, negotiated tender).
- Maidstone, Kent.**—Provision of a lecture room in huffed construction for use by the Sea Cadets at Old College, for B.C.—The British Legion, 49 Pall Mall, London, S.W.1, £1,285 (recommended).
- Maltby, Yorks.**—Improvement and repair of five houses in Farquhar Road for U.D.C. G. H. Davis, Council's architect—D. Rabbjohn, 32 Severn Side Place, Woodhouse, Sheffield. Estimated cost £3,450.
- Narborough, Leics.**—Occupational therapy department at Carlton Hayes Hospital for Sheffield Regional Hospital Board—Cawrey, Ltd., Anstey, Leicester, £3,480 (recommended).
- Newbury, Berks.**—Construction of concrete bases and handstandings and the supply and erection of 20 garages at Burchell Road, for B.C.—Sydney Green and Sons (Contractors), Ltd., Highlands Farm, Henley-on-Thames, £784, and Ernest Batley, Ltd., Coventry, £1,190, respectively.
- Newcastle upon Tyne.**—Erection of four-storey wing, etc., at headquarters offices for Regional Hospital Board—T. Clements and Sons, Ltd., Selbourne Gardens, Newcastle upon Tyne, £58,385. P. H. Knighton, architect to the Board, and Thomas Barrett, Sons and Partners, 33 High Bridge, Newcastle upon Tyne.
- Newcastle upon Tyne.**—Alterations and additions to factory in Albion Row for Domestos, Ltd. Cackett, Burns Dick and McKellar, architects, 21 Ellison Place, Newcastle upon Tyne—Stephen Easton, Ltd., Westgate Road, Newcastle upon Tyne. Work commenced.
- Newcastle upon Tyne.**—Additional metalwork room at the Firfield Secondary Boys' School for E.C. Curley and Edwards, quantity surveyors, 18 Eldon Square, Newcastle—building—Graham and Son, Westcroft Road, Newcastle, £11,400; heating installation—Cairns, Ltd., 23 Picton Place, Newcastle; and electrical work—Cook and Dawson, Ltd., Back Beach Road, South Shields.
- Newmarket, Cambs.**—Improvement works, comprising alterations or additions to form bathrooms, installation of sanitary fittings with hot water systems and drainage works to 63 houses at Burwell as follows, for R.D.C.: 1-28 Martin Road; 14-25 The Avenue; 24-40, 44, 46, 50-58, 64-76 (even) Ness Road. M. E. Moore, engineer and surveyor—Goodchild Bros., North Street, Burwell, Newmarket, £23,330.
- Northumberland.**—Following for C.C. C. C. Brown, county architect: Erection of a county secondary school at Newbigin—Gilbert Ash, Ltd., London, £241,990; secondary school at Prudhoe—Middlemiss Bros., Ltd., Steyne Bank, Newcastle upon Tyne, £35,237; secondary school at South Broomhill—J. G. Green and Son, The Butts, Warkworth, £147,500.
- Norwich.**—Rebuilding of premises at 62-70 St. Stephen Street for the Norwich Co-operative Society—Direct Labour. Wearing and Hastings, architect, 5 Cathedral Close, Dawsons, Ltd., steelwork consultants, 7 The Close, and E. J. Cunningham, Ltd., heating consultant, 19 Muspole Street. Demolition work commenced.
- Oxford.**—Following for City Council: Provision of changing accommodation at Long Bridges bathing place—W. G. Powell, Ltd., 474 Cowley Road, Oxford, £1,333; provision of a workmen's mess, office and store at Alexandra Courts—A. J. Sadler and Co., Ltd., Vicarage Farm Cottage, Chesterton, Bicester, £1,050 (recommended).
- Scunthorpe, Lincs.**—Following development at Scunthorpe and District War Memorial Hospital for Sheffield Regional Hospital

Board: Provision of section 5 beds, remodelling and additional storeys to Coronation block and boiler house extension phase 2—elevator pit and fuel bunker—Quibell and Hardy, Ltd., Scunthorpe, £6,153, £489,348 and £1,949, respectively (recommended).

Scunthorpe, Lincs.—Following for B.C.:—Erection of garages at Laburnum Grove—F. B. and J. E. Smith, 9a Queen Street, Ashby, Scunthorpe, £4,147; roof tiling in building scheme 94—T. Oglesby, 44 Ashby Road, Scunthorpe, £3,132; construction of the garaging depot at Station Road and provision of the lecture room and art gallery at the museum—F. J. Brown, Ltd., 136 Doncaster Road, Scunthorpe, £12,593 and £6,220, respectively; provision of soundproof removable partition between the committee rooms at Civic Centre—Compactom, Ltd., Osgate Lane, London, N.W.2, £8,111 (recommended, subject to Ministry approval).

Sheffield.—Regional tutorial centre at Lodge Moor Hospital for Regional Hospital Board—Frank Robson, Ltd., Sheffield, £10,976 (recommended).

Sheffield.—Following for City Council: Alterations and improvements at Highfield School—W. Redmile and Son, Ltd., 118 Alderson Road, Sheffield, 2, £14,837; acoustic treatment at Hunter's Bar Junior School—Direct Labour, £880.

Erection of Chaucer II Secondary School—George Longden and Son, Ltd., St. Peters Close, Sheffield, 1, £253,132, subject to reductions.

Repairs and replacements at 210 temporary bungalows at Dore and Totley—Direct Labour, £37,275.

Erection of branch library, public conveniences, bus shelter and covered way on land within the Hemsworth unit of the Gleadless Valley estate—C. Otter and Co., Ltd., 148-152 Harvest Lane, Sheffield, 3, £13,111; erection of a prefabricated cattle lairage at public abattoir—Direct Labour, estimated cost £11,000.

Strengthening of floor at the Townhead Street garages—Quickset Water Sealers, Ltd., 20 Albert Embankment, London, S.E.11, £10,740, and Cementation Co., Ltd., Doncaster, £4,540 (all recommended).

Smethwick, Staffs.—Extension of the kitchen at the fire station for Smethwick and West Bromwich Fire Service Committee—A. E. Robertson and Co., Birmingham, £640 (recommended).

Smethwick, Staffs.—Additional work to waterproof the top floor of Boulton Place and Murdoch Place, redevelopment site 1, for B.C.—Ruberoid Co., Ltd., 75 New Street, Birmingham, £855 (recommended).

Southend-on-Sea, Essex.—Following for B.C.: Improvements to lounge at Palace Theatre—Howes and Saville, Chelmsford, £5,280; stationery and games store at Wentworth High School for Girls—E. G. and L. E. Hubbard, Ltd., 57a Christchurch Road, Southend-on-Sea, £938; third and final stage of the Cliffs Pavilion—Gray, Conoley and Co., Ltd., 29 Stephenson Street, London, E.16, £341,832 (recommended).

South Shields, Dur.—Modernisation of slaughterhouse for B.C. John Reid, borough engineer—Direct Labour, £53,000.

Surrey.—Following for E.C.: Provision of timber sanitation units at Clarence Avenue County Primary, Malden, King Athlestan County Infants', Kingston-upon-Thames, and Muschamp County Primary and Tweedale County Primary Schools, Carshalton—Terrapin, Ltd., 6 Porter Street, London, W.1, £12,023; external redecoration and repairs at Merrist Wood Farm Institute—R. Smith, Railway Yard, Guildford Station, Guildford, £1,738 (recommended).

Thingoe, Suffolk.—Modernisation of 11 houses, Bardwell Road, Barningham, and 12 houses in three groups of four in Theltham, for R.D.C. S. M. Casson, engineer and surveyor—David Aves, The Gables, Hinderclay, Diss, £5,376 and £6,262, respectively.

Wallsend, Northumb.—New warehouse at Cooksons Works, for Associated Lead Manufacturers—Brims and Co., Ltd., Pandon Buildings, City Road, Newcastle upon Tyne.

Wandsworth.—Modernisation works to Town Hall, for B.C.—Yeomans and Partners, Ltd., 44 Upper Berkeley Street, London, W.1 £52,120 (fixed price tender, recommended); Marshall Andrew and Co., Ltd., £56,665; B. P. Warton Decor, Ltd., £58,343; A. E. Lindsey and Son, Ltd., £58,584; William Moss and Sons, Ltd., £58,641; Catesbys Contracts and Exports, Ltd., £59,515.

Repair and improvement works at the disinfecting station, Blackshaw Road, for B.C.—J. S. Daniels and Sons, 434 High Street, London, S.W.16, £1,935 (recommended); Anglo-Scottish Construction Co.,

Ltd., £2,796; J. Garrett and Son., Ltd., £2,983; Tamworth Park Construction Co., £3,115; Russell Bros. (Builders), Ltd., £3,346.

Wandsworth.—Erection of a day special school for physically handicapped children at St. Margaret's Crescent for L.C.C. Tenders were invited on a fixed-price basis (a) and a fluctuation clause basis (b)—J. and J. Dean (Contracts), Ltd., Ruckholt Close, London, E.10, (a) £50,254 (accepted) and (b) £48,934; G. Ward (Ealing), Ltd., £50,455 and £48,705; M. Howard (Mitcham), Ltd., £54,700 and £53,725; Siggs and Chapman, Ltd., £56,000 and £55,102; Henry Kent (Builders), Ltd., £56,260 and £55,346; W. J. Marston and Son, Ltd., £56,775 and £55,600; H. T. Oliver and Sons, Ltd., £58,165 and £57,165; Ellis Berg Contractors, Ltd., £63,408 and £59,773. The comparable estimate of the architects, James Cubitt and Partners, is £51,800.

West Bromwich, Staffs.—Erection of 17 garages at Ennerdale Road for B.C.—Direct Labour, £2,787 (recommended, extension of contract).

Willesden, Middx.—Repairs and adaptations to 40 and 42 Oxford Road, 70 Princess Road and 29 Stonebridge Park, Stonebridge (phase 3), for B.C.—E. A. Birch, 4 Compton Road, London, N.W.10, £1,256, £1,015, £1,027 and £1,425, respectively (recommended).

Winsford, Ches.—Winsford sewerage and sewage disposal scheme, phase 1, for U.D.C. comprising the construction of thickened concrete pipes, one section, comprising approximately $\frac{1}{2}$ mile of 21in. diameter and the other approximately $\frac{1}{2}$ mile of 57in. diameter, and $\frac{1}{2}$ mile of 27in. and 33in. diameter, together with a brook crossing in steel pipe, and concrete manholes, Ward, Ashcroft and Parkman, consulting engineers, 38 The Temple, Liverpool, 2—Mears Bros., Ltd., Terminus Road, Bromborough, £104,511 (subject to Ministry approval).

Witney, Oxon.—Installation of bathrooms and hot water systems in 17 pre-war Council houses at Walnut Row and Meadow End, Fulbrook, for R.D.C. J. Kennell, engineer—Massey and Bowl, Sheep Street, Burford, £4,543 (subject to Ministry approval).

Woking, Surrey.—Extensions and adaptations at Sheerwater County Secondary School, for Co. E.C.—R. Holford and Co., Ltd., Walnut Tree Close, Guildford, £247,390 (recommended).

Wood Green, Middx.—Repairs at 74-74a and 76-76a Winkfield Road and 4 Finsbury Road for B.C.—Direct Labour, £1,161 and £606, respectively (recommended).

Worcester.—External repair and redecoration of Abberley and Bredon blocks, Hillborough, for City Council—R. Williams-Hubbard, 37 Great House Road, Worcester, £705 (recommended).

Workop, Notts.—Proposed brick building to house chlorination plant at Manton Colliery for B.C.—W. Burton, High Road, Carlton-in-Lindrick.

Worthing, Sussex.—Following for B.C.: Provision of steel frames for the erection of garages at Meadow Road—Condor Engineering Co., Ltd., Burton-on-Trent, Staffs., £5,470 (recommended).

Erection of a pavilion at Broadwater Green—Cophorne Builders (Worthing), Ltd., Chapel Road, Worthing, £6,495.

CLOTHING AND TEXTILES

Doncaster, Yorks.—Supply of uniforms for traffic staff in 1962 for B.C.—Briggs, Jones and Gibson (1924), Ltd., Newcastle-under-Lyme, £3,480 (recommended).

Maidenhead, Berks.—Supply of 98 donkey jackets for workmen, for B.C.—Arthur Miller, Ltd., 175 Bermondsey Street, London, S.E.1, £249.

Mitcham, Surrey.—Supply of 25 sets of waterproof jackets and leggings for road sweepers, for B.C.—Wallach Bros., Ltd., 49 Tabernacle Street, London, E.C.2, £141 (recommended); Time, Ltd., £148.

Newcastle upon Tyne.—Supply of following for transport department for City Council: 1,454 jackets and 1,575 trousers—Manclark and Son, Ltd., Edinburgh, £6,227 and £3,483; 312 jackets, 28 skirts, 318 slacks and 555 overcoats—Briggs, Jones and Gibson, Ltd., Newcastle, Staffs., £1,290, £54, £661 and £2,267, respectively; 1,082 overalls—James Smith and Co. (Newcastle), Ltd., Newcastle upon Tyne, £1,429 (recommended).

West Bromwich, Staffs.—Supply of protective clothing for refuse collectors, etc., for B.C.: 84 donkey jackets—Arthur Miller, Ltd., 175 Bermondsey Street, London, S.E.11, £211; 124 boiler suit overalls—The Protective Clothing Co., Ltd., 188 King's Cross Road, London, W.C.1, £162; 24 bib and brace overalls—James Varley and Co., Ltd., Blackburn, £39 (recommended).

DEMOLITION

Beddington and Wallington, Surrey.—Demolition of the tennis pavilion, etc., at Beddington Park, for B.C.—Syd Bishop and Sons (Demolition), Ltd., Bromley, Kent, £98 (recommended).

Bromley, Kent.—Demolition of following for B.C.: Blyth Road flats—Stotesbury and Kidson, Ltd., 37 Park Road, Bromley, £2,128; Bromley Park flats and Havelock Road flats—W. H. Willson and Co. (Builders), Ltd., 125 Masons Hill, Bromley, £1,237 and £306, respectively.

Edinburgh.—Demolition work at 1-3 Inglis Green Road and 58-62 Lanark Road for City Council—Chas. Brand (Dundee), Ltd., 295 Edmiston Drive, Glasgow, E.1, £890.

Hemel Hempstead, Herts.—Demolition of waterworks building, etc., at Marlowes for B.C. A. H. Turner, borough engineer—W. Button and Son, 200 Prestwich Road, Carpenders Park, £50. Work commencing Oct. 9.

Mitcham, Surrey.—Demolition and site clearance of 280-286 London Road, for B.C.—J. W. Elliott, 13 Strathmore Road, Croydon, £298 (recommended); London Demolition Co., Ltd., £343; Gorst and Co., Ltd., £439; Bishop and Sons Demolition, Ltd., £500; W. H. Penfold and Sons, Ltd., £578; T. Brown, £672; Ashton and Sons (Stoke Newington), Ltd., £695; H. R. Holmes, £890.

Newcastle upon Tyne.—Demolition of Palace Theatre for City Council—Demolition and Construction Co., Ltd., 3 St. James's Square, London, S.W.1, £3,140 (recommended).

Norton-Radstock, Som.—Demolition and clearance of houses and premises at White Hart Row, Fosseway Cottages and Middle Row, Cladon, for U.D.C.—Plymouth Plant Hire, Ltd., Arcadia Road, Elburton, Plymouth, £1,350. Work commenced.

Sheffield.—Demolition of the following for City Council: St. Luke's School, Granville Street, and 31-49 and houses in Courts 1 and 3, Marcus Street—A. White, 114 Abbeyfield Road, Sheffield, 4, £450 and £285, respectively; Old Harrow public house, Harvest Lane, 4-12 Bramber Street, and 2-10 Spital Lane, 2-54 and 1-27 Coalbrook Crescent—J. Childs, 172 Manor Lane, Sheffield, 2, £100, £100 and £400, respectively (recommended).

Stoke-on-Trent, Staffs.—Demolition of the following for City Council: (1) Dog and Partridge Inn, King Street, Fenton; (2) Antelope Inn, 219 Normacot Road, Longton; (3) Blue Bell Inn, and 1 and 3 Broad Street, Hanley—The Parkhall Demolition Co., Tunstall, Stoke-on-Trent, (a) £75, (b) £60 and (c) £250; Ashwood Hotel, Wood Street, Longton—G. Baskerville, Martin Street, Cobridge, Stoke-on-Trent, £90 (recommended).

Westminster.—Demolition of the Frederick Gorringe department store at Buckingham Palace Road, London, S.W.1—J. and A. Demolition Co., Ltd., Regents Corner, Wellington Road, London, N.W.10.

Worthing, Sussex.—Demolition of buildings and construction of parking places at Gloucester Place and Ann Street for B.C.—Hall and Co., Ltd., Croydon, Surrey, £872 (recommended).

ELECTRICAL

Gainsborough, Lincs.—Additional work at West Burton power station, involving the complete excavation of foundations for the boiler and turbine houses and provision of a 12in. thick mass concrete blinding layer over the foundation area, etc., for the northern project group of the Central Electricity Generating Board—Mitchell Construction Co., Ltd., Peterborough, Northants. Estimated cost £175,000.

Liverpool.—Supply in the financial year 1962/63 of fire alarm equipment for installation at new fire station at Storrington Avenue, for City Council—Standard Telephone and Cables, Ltd., Footscray, Sidcup, Kent, £1,112 (recommended).

Luton, Beds.—Following for B.C.: Re-wiring of 20 houses at Cannon Lane and 29 at Dordans Road and Roman Road—J. and J. Burtenshaw and Partners, Ltd., Luton, £680 and £989, respectively.

Electrical installation in the new corporation hangar at the airport—B. Thomas, Dunstable, £4,275 (recommended).

Scunthorpe, Lincs.—Following for B.C.: Electrical installation, building scheme 94—Hobson and Scott, Ltd., 221 Chippinghouse Road, Sheffield, £2,259; installation of vehicle-actuated signals at Ashby Turn junction—Automatic Telephone and Electric Co., Ltd., 27 Collegiate Crescent, Sheffield, 10, £1,348 (recommended).

Sheffield.—Following for City Council: Electrical services at High Storrs Grammar Schools extensions—Tinsley Electric Co.,

Ltd., 303 Sheffield Road, Sheffield, 9, £15,739.

Provision of an additional lift in the eight-storey block at College of Technology—The Express Lift Co., Ltd., Vicar Lane, Leeds, 2, £5,606 (recommended).

Shoreditch.—Supply and installation of three electric passenger lifts at a new hall of residence, Northampton College of Advanced Technology for L.C.C.—The Express Lift Co., Ltd., Northampton, £28,702 (accepted); Wm. Wadsworth and Sons, Ltd., £31,179; Otis Elevator Co., Ltd., £33,103.

Southgate, Middx.—Installation of traffic signals at the junction of Chase Side/Osidge Lane/Avenue Road for B.C.—S.G.E. Signals, Ltd., Wembley, £1,517 (recommended).

Stoke-on-Trent, Staffs.—Following for City Council: Electrical installation at the extensions to the junior training centre, Fenton—Speed Electric Service, Ltd., 26 Hill Church Street, Hanley, Stoke-on-Trent, £3,782; electrical installations at the bowls pavilion, tractor and implements store, Hanley Park—Barnett and Soames, Ltd., South Wolfe Street, Stoke-on-Trent, £1,243 (recommended).

Tilbury, Essex.—Casting and driving of approximately 17,500 reinforced concrete piles 17in. sq. and varying in length between 44ft. and 65ft. at the Tilbury B Power Station for Central Electricity Generating Board. Sir Alexander Gibb and Partners, consulting engineers, Queen Anne's Lodge, London, S.W.1—Holloway Bros. (London), Ltd. 157 Millbank, London, S.W.1. Estimated cost £1m.

Wandsworth.—Supply of traffic control signals at the junction of Wandsworth Road-Union Road-Stewarts Road for B.C.—Automatic Telephone and Electric Co., Ltd., Strower House, 8 Arundel Street, London, W.C.2, £1,576 (recommended).

FENCING

Barking, Essex.—Provision of chain link fencing to surmount the boundary wall at Park Modern playing field for B.C.—Peerless Fence and Products, Ltd., Harefield, Middx., £512 (recommended).

Hemel Hempstead, Herts.—Supply and erection of 3ft. high cleft chestnut fencing on driven stakes, for Council houses in Deaconsfield Road, Lawn Lane, Wood Crescent, Wood Lane, St. Pauls Road and Adeyfield Road, for B.C. A. H. Turner, borough engineer—Chestnut Products, Ltd., Lower Green, Pembury, Kent, £431.

Liverpool.—Supply and erection of the following for City Council: Supply and erection of 133 lin. yd. of mild steel angle fencing on the splay to be formed at the junction of East Lancashire Road and Stonebridge Lane—Hill and Smith, Ltd., Brierley Hill, Staffs., £571; tubular steel fencing and gates at Marlborough Road allotments area—Tubewrights, Ltd., Kirby industrial estate, Kirby, near Liverpool, £914; wrought-iron railings and gates at Westfield Children's Home—R. E. Thompson and Sons, 23 Dalrymple Street, Liverpool, 5, £455 (recommended).

St. Albans, Herts.—Provision of fencing at Sandridge Road, Oysterfield and Everlasting Lane allotments, for City Council—Blakeney and Strange (Fencing), Ltd., Long Springs, Porterswood, St. Albans, £165, £310 and £186 respectively (recommended).

Scunthorpe, Lincs.—Supply and erection of chain link fencing at Manifold Road, Malvern Road, Manley Street and Sheffield Park for B.C.—Darlington Fencing Co., Ltd., Doncaster, £1,026 (recommended).

GAS AND WATER SUPPLY

Accrington, Lancs.—Laying approximately 1,830 lin. yd. of 6in. diameter spun-iron pipes between Hurstead Street, off Manchester Road, Baxenden, Accrington, and Far Barn Cottage, Green Haworth, for Accrington District Water Board—Ferguson Brothers, 46 Hill Top Avenue, Leeds, 8.

Cemaes, Pems.—Construction of the Brynberian augmentation water scheme to aid metered properties for R.D.C.—Young Bros. and Lewis, Ltd., The Ashes, Clyderwen, £41,721.

Dulverton, Som.—Laying of approximately 550yd. of 3in. asbestos water main, and works incidental thereto, in the village of Skilgate, for R.D.C. R. J. Organ, engineer and surveyor—C. Sweetland and Sons, Exford, £1,979. Work to commence November.

Oxford.—Following for City Council: Supply of three 24in. Butterfly valves and an automatic control gear and Venturi meter for Swinford Waterworks—Cockburns,

Ltd., 175 Piccadilly, London, W.1, £806 and Electroflo Meters, Ltd., Abbey Road, London, N.W.10, £961, respectively; extension to booster station house at Boars Hill reservoir—Tilbury and Finch, 2a Gladstone Road, Headington, Oxford, £983 (recommended).

Laying of a 27in. main between Swinford and the Beacon Hill reservoir—Direct Labour (recommended). Estimated cost £23,700.

Thurso, Caithness.—Following for B.C.: (1) Laying of 950 lin. yd. of 9in. iron water pipeline and associated works; (2) construction of a concrete pipe sewer extending to 400 lin. yd. 15in. diameter and 370 lin. yd. of 12in. diameter with precast concrete manholes and associated works; (3) sewers, watermains and access road for a small housing development to serve about 20 private feus. Gilbert Thomson and Son, civil engineers, 164 Bath Street, Glasgow—(1) Alex. Sutherland, Ltd., Princes Street, Thurso, £5,112; (2) and (3) Wm. Tawse, Ltd., Aberdeen, £8,957 and £6,881, respectively.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Jarrow, Dur.—First Stage of the Jarrow Quay improvement scheme for Shell-Mex and B.P., Ltd.—Sir Robert McAlpine and Sons (North Eastern), Ltd., 81 Jesmond Road, Newcastle upon Tyne, £300,000.

Lowestoft, Suffolk.—Construction of five groynes and reconstruction of one groyne, North Sea wall and toe piling at North Sea wall for City Council—Direct Labour (recommended). Estimated cost £27,000 and £15,000, respectively.

HEATING AND VENTILATING

Birmingham.—New boiler plant in Bacchus Road laundry for City Council—Direct Labour, £11,055.

Newcastle upon Tyne.—Installation of steam boiler plant, etc., at Rutherford College of Technology for E.C.—Rowells (1924), Ltd., Byron Street, Newcastle upon Tyne, £8,328.

Poplar.—Plumbing and hot and cold water installations at eight houses in Coborn Road and Mostyn Grove, and heating and hot and cold water services at new Bow Library, Stafford Road, for B.C.—Arthur Scull and Son, Ltd., Finwell House, Finsbury Square, London, E.C.2, £1,558 and £1,992.

Scunthorpe, Lincs.—Ventilation work at the public baths for B.C.—Ashwell and Nesbit, Ltd., 32 Headingley Lane, Leeds, 6, £1,835.

Sheffield.—Conversion of solid fuel boilers to oil firing in the public abattoir for City Council—Brightside Heating and Engineering Co., Ltd., Ecclesfield, Sheffield, £3,230 (recommended).

Stoke-on-Trent, Staffs.—Provision of underfeed stokers to steam boiler at Stoke Public Baths for City Council—Joshua Bigwood and Son, Ltd., Wednesfield Road, Wolverhampton, £2,198 (recommended).

Woking, Surrey.—Installation of heating boiler and alterations to heating system at The Park School, for Co. E.C.—Mould and Blaydon, Ltd., 7 Market Parade, High Street, Ewell, £3,892 (recommended).

HOUSING SCHEMES

Abingdon, Berks.—Thirty-one Homeville traditional houses and flats at Appleton and 12 Homeville traditional flats, Stevenston, including roads and sewers, for R.D.C.—F. J. Minns and Co., Ltd., Oxford.

Abingdon, Berks.—Ten single-bedroom traditional dwellings with ancillary works as part of the third stage of development at Gainsborough Green for B.C. Caren, Roscoe-Hudson and Partners, architects, 6 Station Road, Abingdon—S. G. Bowler and Son, 49 Bromsgrove, Faringdon, £18,101 (accepted); F. J. Minns and Co., Ltd., £19,653. Work to commence December 1.

Beddington and Wallington, Surrey.—Conversion of 16 Maldon Road into four flats, for B.C.—G. W. Young (Builders), Ltd., 64 Central Road, Worcester Park, £3,699 (recommended subject to Ministry approval).

Birmingham.—Eight dwellings and 42 garages at Starbank Road, Hay Mills, contract 700, for City Council—Direct Labour, £23,055.

Chatham, Kent.—Erection of 19 maisonnettes and 12 flats in the Perry Street redevelopment area, for B.C.—Hawkes Construction, Ltd., Birchington, £89,038 (recommended, subject to Ministry approval).

Chelmsford, Essex.—Following at Meadgate Avenue, Great Baddow, for B.C.: 23 houses, 12 flats and 32 garages, scheme 8—L. V. Smith, Kings Road, Southminster, £63,850;

58 houses, 24 flats and 60 garages (contracts 2 and 3) and 27 houses, 24 flats and 34 garages (contract 4)—J. H. Cottam, Ltd., Foxhall Road, Southminster, £250,594 (subject to Ministry approval).

Chester-le-Street, Dur.—Forty houses at Fattfield for R.D.C. F. Bowman, housing architect—Whittall (Builders), Ltd., West Boldon, Co. Durham.

Didcot, Berks.—Thirty-one Homeville traditional houses for the United Kingdom Atomic Energy Authority—F. J. Minns and Co., Ltd., Oxford.

Doncaster, Yorks.—Three blocks of 14-storey flats and two blocks of nine-storey flats (96 one-bedroom, 209 two-bedroom and 16 three-bedroom—total 321 flats) (contract 719) in the central area, for B.C.—George Wimpey and Co., Ltd., London, W.6, £859,164 (recommended, subject to Ministry approval).

Dunmow, Essex.—Forty-four dwellings at Dunmow, White Roding, Aythorpe Roding, Little Bardfield, Barnston, Broxton, Little Easton, Felsted, Hatfield Heath, High Easter, Stebbing, Thaxted and Takeley, for R.D.C.—Selleck Nicholls and Co., Ltd., Hill House, East Hill, St. Austell, Corn., £68,762 (subject to Ministry approval).

Durham.—Twenty-six dwellings at Grape Lane, Crossgate, for the City Council, Tarren and Callar, architects, 16 Great North Road, Newcastle upon Tyne—Thomas Armstrong, Robson Street, Newcastle upon Tyne (subject to Ministry approval).

Sixty-six houses with roads and sewers on three sites, for the R.D.C. J. F. Willis, housing architect—Direct Labour, £102,619.

Frome, Som.—Sixty-five houses at the Mount housing estate for U.D.C.—Plummer and Hockley, Wells Road, Radstock, £114,224.

Ilford, Essex.—Conversion of 59 Eastwood Road for B.C.—E. Armstrong, Ltd., £4,719 (recommended).

Linarkshire.—Two hundred and thirty-one houses and 103 lock-up garages at Carlisle, Cambuslang and Uddingston, for C.C.—Atholl Houses of Glasgow, £247,449; George Wilson, Stonehouse, £165,919; E. Moran (Buildings), Ltd., Hamilton, £31,156, respectively.

Lexden and Winstree, Essex.—Two blocks of flats, four pairs of houses, three blocks of terrace houses, together with site works, roads and sewers, etc., for R.D.C. Duncan Clark and Beckett, architects, 7 West Stockwell Street, Colchester—J. Moss and Son, Ltd., St. Helena Road, Colchester £60,326. Work commencing October.

Leyton, Essex.—One hundred and twenty-five dwellings, 64 garages, pram stores and a service roadway in the second stage of the Crescent Road redevelopment area, and laying out an open space at Carlisle Road/Shafesbury Road, for B.C.—J. and J. Dean (Contracts), Ltd., Ruckholt Close, London, E.10, £372,666 (recommended).

Liverpool.—Six dwellings at Wellington Terrace and 12 dwellings at Byles Street/Branker Street, for City Council—R. G. Barton and Sons, Ltd., Althear Road, Formby, Lancs., £17,357 and £31,231, respectively (recommended, subject to Ministry approval).

Luton, Beds.—Two hundred and fifty-nine Easiform houses and 74 one-bedroom two-storey old people's dwellings at Lewsey estate for B.C.—John Laing Construction, Ltd., Mill Hill, London, N.W.7, £657,105 (recommended, negotiated tender, subject to Ministry approval).

Merstham, Surrey.—Provision of a caretaker's house at Albury Manor County Secondary School for Co. E.C.—R. Whitaker, Ltd., Kingston-upon-Thames, £3,043 (recommended).

Mitcham, Surrey.—Six cottages at 112 Tamworth Lane for B.C.—Alec. A. Shaw and Co., Ltd., 105a Mill Hill Road, London, W.3, £13,101 (accepted, subject to Ministry approval); M. J. Deane, £13,562; J. H. Dring and Sons, Ltd., £15,654; K. C. Smith (Builders), Ltd., £16,344; Hast Construction, Ltd., £19,510.

Newbury, Berks.—Thirty-two flats (scheme 9B) at Turnpike Road estate, for B.C.—William Croft and Co., Ltd., Swindon, Wilts., £49,810 (recommended, subject to Ministry approval).

Paddington.—Construction of two further 21-storey blocks, each containing 125 flats, at Warwick Crescent site, for L.C.C.—Wates, Ltd., 1258 London Road, London, S.W.16, £364,498 and £348,532.

St. Albans, Herts.—Following for City Council: Construction of reinforced concrete floors and staircases for the 18 flats at Mount Pleasant—Concrete (Southern), Ltd., Green Lane, Hounslow, Middx., £1,380 (recommended).

Eight flats and four old people's bungalows at Ashley Road and Drakes Drive, and two

flats at Old London Road—A. E. Simms, Ltd., 163 St. Albans Road, Sandridge, St. Albans, £20,045 and £4,815 respectively (recommended, subject to Ministry approval).

St. Austell, Corn.—Twelve houses and 16 bungalows at Trekenning Road, St. Columb Major, with all ancillary works, for R.D.C. A. W. Townsend, engineer and surveyor—Selleck, Nicholls, Williams, Ltd., Trevarrick House, St. Austell, £43,647. Subject to Ministry approval.

Sheffield.—Eighty-two dwellings and stores, four shops, 14 double garages and one electricity sub-station within the Netherthorpe redevelopment area, for City Council—Bailey and Martyn (Holdings), Ltd., 39a Bank Street, Sheffield, 1, £223,494 (recommended, subject to Ministry approval).

Smethwick, Staffs.—Sub-contractors for the following for B.C.: Three hundred and seventy-three dwellings and 117 garages at Kingsway site—granolithic—Pollock Bros. (London), Ltd., London, S.E.14; asphalt—Permanite, Ltd., Birmingham; plaster—T. Hawkins, Ltd., Knowle; wall tiler—Webb's (Kings Heath), Ltd., Birmingham; balustrading—A. E. Shaw, Ltd., Birmingham; plumber—David F. Wiseman and Sons, Ltd., Birmingham; glazing—Pearce and Cutler, Ltd., Birmingham; painter—J. Patrick and Co., Birmingham; fencing—The Ideal Fencing Co., Birmingham; landscape gardener—Wm. Hartshorne and Sons, Ltd., Birmingham; flush doors—F. Hill and Sons, Ltd., Stockton-on-Tees; ironmongery—Walker and Wood, Ltd., Birmingham; 288 dwellings and 73 dwellings on redevelopment site 4 (Cheshire's Brewery)—plumbing and gas fitting—J. S. Wright and Co., Ltd., Birmingham; lifts—Express Lift Co., Ltd.; glazing—Aygee, Ltd., Birmingham; eight-storey block of flats on redevelopment site 2—electrical—A. and V. Baxter, Ltd., Croydon; balustrading—A. E. Shaw, Ltd., Birmingham (recommended).

Stepney.—Sixty-eight maisonnettes in four four-storey blocks 17 garages 33 tenants' stores and a play space at Burdett estate for L.C.C.—Direct Labour, £189,235.

Stoke-on-Trent, Staffs.—Following for City Council Seven bungalows at Pretoria Road Etruria, and five at junction of Leek Road and Millrise Road, Milton—Direct Labour, £10,374 and £6,910, respectively; 46 dwellings (group I) at Port Vale Street, and 40 at Sant Street, Burslem—Seddon (Stoke), Ltd., 55 Duke Street, Stoke-on-Trent, £78,374 and £66,682, respectively; six special type houses at Foxley Lane, Milton—W. H. Whitehurst and Son, 886 London Road, Trent Vale, Stoke-on-Trent, £13,245 (recommended, subject to Ministry approval).

Swindon, Wilts.—Seventy-two traditional houses and 57 garages in the Park South neighbourhood for B.C.—Building and Public Works Construction Co., Ltd., Headlands Grove, Swindon, £151,391 (recommended, subject to Ministry approval).

Wallasey, Ches.—Design and supply of the bar and fabric reinforcement required in connection with the erection of three blocks of five-storey flats and maisonnettes at Twickenham Drive, Leasowe, for B.C. W. P. Clayton, borough architect—The Square Grip Reinforcement Co. (Manchester), Ltd., Parsonage Chambers, 3 The Parsonage, Manchester, 3.

Wallingford, Berks.—Thirty Homeville traditional flats and bungalows at St. George's estate for B.C.—F. J. Minns and Co., Ltd., Oxford.

Wandsworth.—Forty flats in three-storey blocks on Glegg Place site, Putney, for B.C.—Carlton Contractors, Ltd., Epsom, Surrey, £113,427 (recommended); T. R. Roberts (Builders), Ltd., £124,290; Spiers, Ltd., £124,421; W. J. Marston and Son, Ltd., £126,974; C. P. Roberts and Co., Ltd., £129,389; Robert Hart and Sons, Ltd., £129,567; Y. J. Lovell (London), Ltd., £133,297; M. Howard (Mitcham), Ltd., £135,826.

Whiston, Lancs.—Twelve bungalows and two four-bedroom houses at Knowsley housing scheme, part IA, for R.D.C.—Hall Heath and Co., Ltd., 106 Blundell Road, Hough Green, Widnes (subject to Ministry approval).

MATERIALS AND SUPPLIES

Barking, Essex.—Supply of the following for old persons' dwellings at Bevan Avenue, for B.C. Chimney stacks and fireplace units—True Flue, Ltd., 58 Acacia Road, London, N.W.8, £1,019; metal windows—Remploy, Ltd., 415 Edgware Road, London, N.W.2, £908 (recommended).

Haslemere, Surrey.—Following for U.D.C.: Supply of 32 Aidas lagged combination

cylinders, type LCC, each capable of holding 20 gallons of hot water, complete with ball valves; supply of 32 3kW Aidas Spirod immersion heaters, fitted with Aidas Aida-stat thermostat 20amp rating 8 1/2 in. long—Hooper and Ashby, Godalming, £683 (accepted); C.W.M., Ltd., £832; Dibben, Ltd., £697; P. J. Farmer, £815; Haslemere Radio and Electrical Co., Ltd., £854; Huntingford and Coombes, £782; Oliver H. and Son, £864; S.E.B., £835; Spicer, £786; Stoneman and Co., £763.

Smethwick, Staffs.—Supply of 1,000 dustbins with lids for B.C.—Co-operative Wholesale Society, Ltd., Dudley, £1 8s. 9d. each less 3 1/2 per cent. plus purchase tax at 4s. 7 1/2d. each (recommended).

MISCELLANEOUS

Liverpool.—Supply of 13,125ft. of B.1687 Bon Accord lightweight rubber latex lined fire hose (in 75ft. lengths) for City Council—Richards, Ltd., Broadford Works, Aberdeen (recommended). Estimated cost £2,365.

Southend-on-Sea, Essex.—Provision of cold rooms at Belfairs and Thorpe Schools kitchens for B.C.—Metropolitan Refrigeration, Ltd., 1426 London Road, Leigh-on-Sea, £878 (recommended).

West Bromwich, Staffs.—Supply of a Universal grinding machine for B.C.—Landis Lund, Ltd., 131 Victoria Street, London, S.W.1, £3,554 (recommended).

PLANT AND MECHANICAL TRANSPORT

Barking, Essex.—Supply of the following for B.C.: One 30cwt. Austin van—C. F. Warren, Ltd., 76 West Street, Rochford, £804; two 3-ton low loading refuse vehicles—Barking Garage and Engineering Co., Ltd., 16 Wakering Road, Barking, £2,414 (recommended).

Coldstream, Berwicks.—Supply of one low-frame 3-ton chassis vehicle, complete with 10 cu. yd. side loading refuse body equipped with a single cab and powered by a four-cylinder petrol driven engine, having hydraulic tipping, gear for B.C.—The Coldstream Garage, High Street, Coldstream.

Doncaster, Yorks.—Supply of a Bedford-Lacre suction sweeper, for B.C.—Thompson of Doncaster, Ltd., York Road, Doncaster, £4,628, which includes an allowance for the old machine (recommended).

Ellesmere Port, Ches.—Supply of a Bedford (diesel engine) 4-ton tipping lorry, with forward control, for B.C. Garlick Burrell and Edwards, Renshaw Street, Liverpool, 1, £1,239.

Flint.—Supply and delivery of a Karrier Bantam dual tip refuse collection vehicle for B.C.—Anchor Motors, Victoria Road, Chester, £2,014.

Ilford, Essex.—Supply of a Karrier 2-3-ton three-way tipper for B.C.—Ray Powell, Ltd., 113 Fairlop Road, London, E.11, £975 (recommended).

Newcastle upon Tyne.—Supply of the following for City Council: Three Air Pumps model 155 F.D.4 diesel engine, four-wheel portable air compressors—Service Engines (Newcastle), Ltd., Great Lime Road, Newcastle, 12, £2,967, less allowance of £400 for three second-hand compressors; one eight-ton low loading trailer with necessary equipment—Weeks and Co. (Engineers), Ltd., Hull, £684; one International B.T.D.-6 diesel engine crawler tractor with Drott model B.6-K.3 skid shovel—R. Cripps and Co., Ltd., Shildon, Dur., £3,295, less allowance of £500 for D.4 caterpillar dozer; two Stoother and Pitt Vibroll model 32 W.D. hand-guided diesel engine vibrating rollers—F. Gibson and Co. (Newcastle), Ltd., Haddricks Mill Road, Newcastle upon Tyne, 3, £1,130; one Blaw Knox P.F.45 paver finisher with necessary equipment—Service Engineers (Newcastle), Ltd., £4,208 (recommended).

Scunthorpe, Lincs.—Supply of gully/cesspool emptier for B.C.—Laynes Garage, Ltd., Ferry Road, Scunthorpe, £2,177 (recommended).

Sheffield.—Supply of following, for City Council: One International B.T.D.-6 crawler tractor fitted with operator's cab and Drott model B.6-K.3 skid shovel equipment with 1 cu. yd. four-in-one bucket complete with teeth—R. Cripps and Co., Ltd., Lombard House, Parliament Street, Nottingham, estimated cost £3,675; one Super Industrial Fordson diesel tractor, with cab and twin hydraulic straight muledozer—Kennings, Ltd., Sheffield, £1,169 (both recommended).

Stoke-on-Trent, Staffs.—Supply of two road rollers for City Council—Aveling-Barford, Ltd., Invicta Works, Grantham, Lincs., £3,268 (recommended).

West Bromwich, Staffs.—Supply of a model C.D.50 County Crawler tractor for B.C.—

Reginald Tildesley, Ltd., New Road, Willenhall, £2,515, less part exchange allowance for old machine of £825 (recommended).

PLAYING FIELDS, PARKS, ETC.

Birmingham.—Construction of children's play area at Firs estate, contract L.50/68 for City Council—W. Hartshorne and Sons, Ltd., 1-7 High Street, Erdington, Birmingham, 23, £8,263.

Chesterfield, Derbys.—Construction of King George's playing field in the parish of North Wingfield for R.D.C. J. B. Wickley, engineer and surveyor—En-Tout-Cas Co., Ltd., Syston, Leicester, £2,326.

Darlington, Dur.—Laying out playing fields at Branksome School, for the E.C.—Maxwell Hart (Glasgow), Ltd., Glasgow, £10,890.

Maidenhead, Berks.—Construction of the athletic track at Braywick Road Playing Field, for B.C.—Kast Construction, Ltd., Cippenham, Slough, Bucks, £7,013 (recommended, subject to Ministry approval).

Mitcham, Surrey.—Construction of stage II of The Canons development scheme, comprising tennis courts, paths, drainage, fencing ploughing and seeding and ancillary works for B.C.—General Signs and Surfaces, Ltd., 102 St. John's Park, London, S.E.3, £10,053 (recommended); Maxwell M. Hart (London), Ltd., £10,540; J. S. Bishop and Co., Ltd., £10,563; W. and J. Glossop, Ltd., £12,011; The En-Tout-Cas Co., Ltd., £12,587.

Oxford.—Laying out the grounds and fencing of playing field at St. Michael's School for City Council—En-Tout-Cas Co., Ltd., Syston, Leicester, £1,100 (recommended).

Sheffield.—Following, for City Council: Laying out playing fields in connection with Phase 2 of the erection of Myers Grove School—Bradshaw Bros. (Contractors), Ltd., 117 1/2 Loughborough Road, Leicester, £19,547; construction of tennis courts, athletic area, etc., at Chaucer II Secondary School—En-Tout-Cas Co., Ltd., Syston, Leicester, £8,352 (both recommended).

Southall, Middx.—Laying out of an educational playing field at Warren Farm for L.C.C.—E. Doe and Sons (Contracts), Ltd., Ongar, Essex, £66,142 (accepted); A. J. Ward and Sons, Ltd., £68,884 Kinnman (Contractors), Ltd., £72,197; St. Mary's (Contractors), Ltd., £74,345; Bradshaw Bros. (Contractors), Ltd., £78,182; The En-Tout-Cas Co., Ltd., £83,595.

Stoke-on-Trent, Staffs.—Playing fields schemes for Bentilee C.P. School and Stanfield Technical School for City Council—Staffordshire Public Works Co., Ltd., Campbell Road, Stoke-on-Trent, £941 and £2,920, respectively (recommended).

West Bromwich, Staffs.—Provision of children's playgrounds at Acacia Avenue, Charlemont Farm and Ebenezer Street for B.C.—Wates, Ltd., 94 Hagley Road, Birmingham, 16, £1,292, £1,320 and £1,320, respectively (recommended).

Worthing, Sussex.—Supply of two Bedford three-ton tipping lorries for B.C.—Caffyns, Ltd., Worthing, £1,800 (after allowance for two vehicles in part exchange) (recommended).

RAILWAY ENGINEERING

Yorkshire.—Following for British Railways (North Eastern Region)—Main technical equipment for new mechanised marshalling yard now taking shape at Healey Mills, near Wakefield—Westinghouse Brake and Signal Co., Ltd., 1A Effingham Street, Rotherham, estimated cost £617,000; installation of lighting equipment at the yard—K. S. Construction, Ltd., Leeds.

RIVER AND FLOOD PREVENTION WORKS

Devon.—River Exe improvement scheme, Tiverton, part I, for River Board, comprising the construction of a system of retaining walls, flood banks and other flood control structures on the banks of the River Exe at Tiverton—Devon Contractors, Ltd., Venny Bridge, Whipton, Exeter, £21,550.

Stoke-on-Trent, Staffs.—Flood prevention scheme, Longton Brook, Longton Hall Road and Blurton Road for City Council—Butterworth and Partners, Ltd., 62 Station Road, Langley Mill, Nottingham, £54,485 (recommended, subject to Ministry approval).

ROADS, BRIDGES AND SITE WORKS

Aberdeenshire.—Laying of approximately 18,000 sq. yd. of single-course hot-rolled asphalt at the undermentioned sites for C.C.: (a) Watermill Road, College Bounds and

High Street, Fraserburgh trunk road (route A.98); (b) Mintlaw Roundabout (route A.92), for C.C.—Wm. Sharp and Sons, Forres, Morayshire.

Baildon, Yorks.—Surfacing approximately 5,700 sq. yd. of carriageway at the Knoll estate, Baildon, with hot rolled asphalt, and for executing the necessary works of kerb raising and surface preparation, for U.D.C. G. F. R. Dickinson, engineer and surveyor—Trinidad Lake Asphalt Co. (North Western), Ltd., India Buildings, Liverpool, 2. Work commencing November.

Barking, Essex.—Reconstruction of trunk road A.13 from Gascoigne Road to King Edwards Road, for B.C.—Fitzpatrick and Son (Contractors), Ltd., 455 Old Ford Road, London, E.3, £7,992 (recommended).

Beddington and Wallington, Surrey.—Resurfacing of the carriageway at the junction of Woodcote Road and Stafford Road, for B.C.—Limmer and Trinidad Lake Asphalt Co., Ltd., Trinidad Lake House, 232-242 Vauxhall Bridge Road, London, S.W.1., £812.

Birmingham.—Construction of the Aston six-ways underpass for City Council, comprising a dual carriageway underpass about 1,200ft. in length, with two reinforced concrete overbridges, one prestressed concrete footbridge, two pedestrian subways, and ancillary works. Sir William Halcrow and Partners, consulting engineers, Stanhope House, 47 Park Lane, London, W.1.—Robert M. Douglas (Contractors), Ltd., 395 George Road, Birmingham, 23, £538,711 (subject to M.T. approval). Work commencing November.

Bromley, Kent.—Resurfacing of Widmore Road and Pickhurst Lane (part), for B.C.—Chittenden and Simmons, Ltd., Ditton Place, Larkfield, Maidstone, £4,704.

Chatham, Kent.—Making up of Watson Avenue and Brake Avenue, for B.C.—Maidstone Contractors, Ltd., £5,598 and £4,432 respectively (recommended).

Chesterfield, Derbys.—Construction of roads and sewers at Walton Hall Farm housing estate, for B.C. A. S. Crockett, borough engineer and surveyor—Thos. Beighton, Ltd., Station Road, Brimington, near Chesterfield.

Beeston and Stapleford, Notts.—Private street works at Joyce Avenue and Cleve Avenue, Toton, for U.D.C. S. C. Moppett, engineer and surveyor—Constable, Hart and Co., Ltd., 15 St. James Chambers, St. James Street, Derbys., £7,922 and £2,577, respectively (accepted); E. Reader and Sons, Ltd., £8,558 and £2,729; H. Stir-

land and Sons, Ltd., £8,643 and £2,715; H. Collington and Sons, £9,091 and £2,885; C. Williamson and Co., Ltd., £10,036 and £3,132.

Chelmsford, Essex.—Following for B.C.: Surfacing of Chignal Road—Neuchatel Asphalt (Contracting), Ltd., Asphalt House, Palace Street, London, S.W.1, £5,439; Tindal Square, Whitesbridge Road and North Avenue/Patching Hall Lane link road—Waywarden, Ltd., 215 Forest Road, London, E.17, £3,381, £1,536 and £1,843, respectively; Victoria Road car park, phase II—East Anglian Roadstone and Transport Co., Ltd., 66 Bracondale, Norwich, £3,008.

Cheshire.—Construction of three bridges at Lymm on the Birmingham-Preston Motorway for C.C.—G. Dew and Co., Ltd., Main Road, Oldham. Estimated cost £500,000. The main contractors are Tarmac, Ltd.

Dartford, Kent.—Surfacing of carriageways in tarmacadam to serve 37 houses at Roman Camp, off Joydens Wood Road, for T. Walsh—Hodsons, Ltd., 17 Wrotham Road, Gravesend.

Doncaster, Yorks.—Following for B.C.: Private street works in St. Augustine's Road, St. George's Road, Princes Road, Bridge Road, The Oval, The Avenue, and Moorland Grove (part of)—McCann, Fleming and Moran, Ltd., Sheffield, £25,131; surfacing of Bawtry Road between Candle Lane and the Borough boundary—William Prestwich and Sons, Ltd., Dronfield, £6,200; carriageway surfacing, etc., of Grandstand Road and Lonsdale Avenue—Tarmac Civil Engineering, Ltd., Rotherham, £7,053; carriageway surfacing of Sandringham Road, —North Lonsdale Tarmacadam, Ltd., Sheffield, £2,437; kerbing, etc., of Broxholme Lane—McCann, Fleming and Moran, Ltd., Sheffield, £1,972 (all recommended).

Ely, Cambs.—Road and sewer works on Priors Court housing site for U.D.C., comprising principally demolition and site clearance; the construction of approximately 4,914 sq. yd. of new carriageway; the provision of approximately 750 lin. yd. of sewers up to 30in. diameter, and incidental works—Darby's Sand and Gravel Co., Ltd., £33,054. Work commencing Dec.

Gateshead, Dur.—Demolition works, earthworks and drainage at Borough Gardens, for British Railways (North Eastern Region)—Derek Crouch (Contractors), Ltd., Eye, Peterborough, £105,556.

Hatfield, Herts.—Private street works at King James Avenue, Cuffley, and Peplins Way, Brookmans Park, for R.D.C.—

M. Keane and Sons, 72 Lenham Road, Sutton, Surrey, £11,431, and A. V. Wootton and Co., 76 Trinity Road, London, N.22, £5,403, respectively.

Hertford.—Construction of additional car parking areas at the rear of Dimsdale House and adjoining the civil defence headquarters, for B.C.—Direct Labour (recommended). Estimated cost £1,165 and £573, respectively.

Ilford, Essex.—Following for B.C.: Resurfacing of paths in parks—Home Counties Contracting Co., Ltd., 24 Hertford Road, London, N.9, £1,286; constructional work in connection with the widening of Aldborough Road Bridge—Percy Bilton, Ltd., 113 Park Street, London, W.1, £2,841 (recommended).

Lowestoft, Suffolk.—Making-up of Links Road (part) for City Council—Harpers Transport, Ltd., Colville Road Works, Lowestoft, £4,361.

Luton, Beds.—Following for B.C.: Construction of roads and sewers at Lewsey estate—John Laing Construction, Ltd., Mill Hill, London, N.W.7, £94,138 (recommended, negotiated tender, subject to Ministry approval).

Making-up of Memorial Road and Sarum Road—G. Humphries and Co. (Contractors), Ltd., Luton, £3,216 and £2,402, respectively (recommended).

Maidenhead, Berks.—Construction of carriageways and footways, stage 2, section one, at Cox Green estate and provision of garage forecourts at Hillside and Kent Way, Larchfield and Spencers estates, for B.C.—W. and J. Glossop, Ltd., 123 East Hill, London, S.W.18, £6,082, and T. Stevens and Son, £1,390, respectively (recommended).

Maidstone, Kent.—Following for B.C.: Construction of a car park at Brunswick Street West and the reconstruction of defective concrete carriageway at Oxford Road—P. A. Barden and Sons, Ltd., Weaving House, Ashford Road, Maidstone, £5,846 and £6,865, respectively; surfacing of carriageways of the roads on sections 1 and 2 of the Park Wood estate—Chittenden and Simmons, Ltd., Ditton Place, Larkfield, Maidstone, £2,915 (recommended).

Malden, Surrey.—Construction of playground at Clarence Avenue County Primary School for Co. E.C.—Davis, Watson and Elliotts, Ltd., Windmill Road, Aldershot, Hants, £814 (recommended).

Middlesbrough, Yorks.—Earthworks and drainage works at Newport marshalling yard for British Railways (North Eastern Region)—Derek Crouch (Contractors), Ltd., Eye, Peterborough, £224,182.

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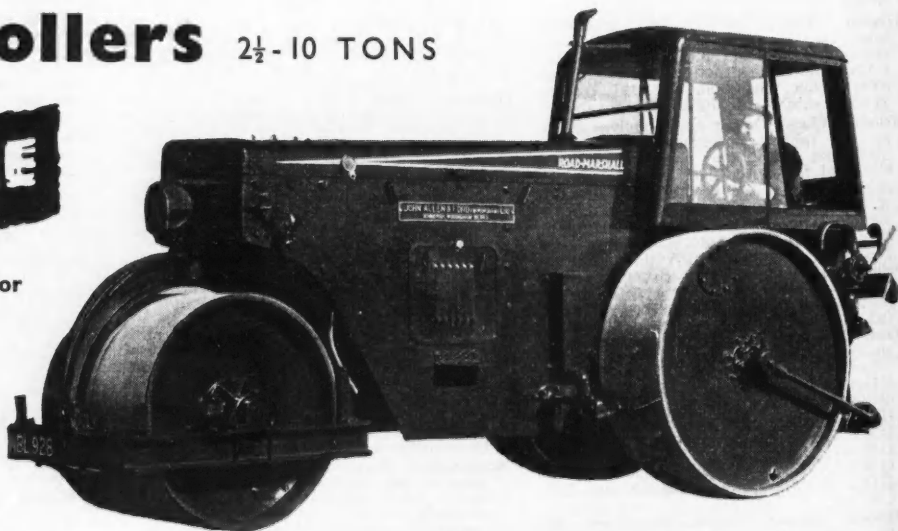
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Mitcham, Surrey.—Provision of tar-paved play area at The Star County Primary School for Co. E.C.—Home Counties Contracting Co., 38 Chancery Lane, London, W.C.2, £1,498 (recommended).

Newbury, Berks.—Completion of footpaths, etc., at Part IV of the Bath Road estate, for B.C.—R. J. Free and Sons, Ltd., 27 Northbrook Street, Newbury, £5,792.

Norwich.—Widening the carriageway in Guardian Road for City Council—Direct Labour (recommended). Estimated cost £5,000.

Nottingham.—Correction. Construction of roads and sewers and provision of street lighting on phase 4 at Bestwood Park estate, for City Council—Fitzgerald Hanlow and Co., Ltd., Premier House, St. James Street, Nottingham, £139,766.

Oxford.—Following for City Council: Provision of an access road from Westhill Farm to Brasenose Wood and improvement of Gipsy Lane (northern end)—Direct Labour (recommended). Estimated cost £1,000 and £3,203, respectively.

Barton Village Road improvement scheme—Direct Labour (recommended, subject to Ministry approval). Estimated cost £7,881.

Poplar.—Asphalt surfacing in various roads for B.C.—Mowlem Paving Co., Ltd., 19 Grosvenor Place, London, S.W.1, £23,638 (recommended).

Reading, Berks.—Construction of footways and verges at stage I (part) of Bulmershe housing estate for B.C.—C. and R.B. Construction (Southern), Ltd., Tilehurst (recommended, subject to Ministry approval).

St. Albans, Herts.—Private street works at Watling View and reconstruction works at Folly Lane, for City Council—M. J. Clancy and Sons, Ltd., 715 Harrow Road, Wembley, Middx., £2,717 and £8,591 respectively (recommended).

St. Albans, Herts.—Private street works at Hawfield Gardens for C.C. A. S. Moody, city engineer and surveyor—Sullivan Construction Co., Ltd., 15 Fitzjohn Avenue, Barnet.

St. Helens, Lancs.—Making-up of 10 streets or parts of streets in the New Street and Broad Oak areas and reconstruction and widening of approximately 1,000 yd. of Mill Lane, from Clock Face Road to Leach Lane, for B.C.—St. Helens Building and Civil

Engineering Co., Ltd., Sherdley Road, St. Helens.

Seisdon, Staffs.—Improvement of Foster Crescent, Kinuor, for R.D.C.—Three Counties Construction Co., Ltd., 32 Fairview Road, Penn, Wolverhampton, £6,130.

Sheffield.—Following for City Council: Road and sewer works, etc., Middlewood Road and Prince of Wales Road in-filling site and resurfacing work at the Burngreave recreation ground—Direct Labour, £82,002, £2,560 and £2,300, respectively; manufacture of the prestressed concrete decks for the two footbridges to be constructed by the City Engineer over Sheffield Parkway—Anglian Building Products, Ltd., 67 Jermy Street, London, S.W.1, £4,995.

Somerset.—Roadworks at Oldmixon, near Weston-super-Mare, for C.C.—W. J. King and Sons, Ltd., Bishop's Lydeard, Taunton, Som.

Southend-on-Sea, Essex.—Following for B.C.: Resurfacing of playgrounds at Leigh, Sacred Heart, Porters Grange, St. Bernard's and Southend High School for Boys—Constable Hart and Co., Ltd., Richmond, Surrey, £2,954; construction of a service road at Victoria Avenue—Higgs and Hill, Ltd., South Lambeth Road, London, S.W.8, £2,450 (recommended).

Southgate, Middx.—Following for B.C.: Reconstruction of Powys Lane (part) and reconstruction and widening of Barrowell Green (part)—T. Cleary and Co., Ltd., 29 Elgin Avenue, Kenton, Harrow, £8,491 and £7,751, respectively; resurfacing of Hedge Lane (part)—Kirkworth Quarries, Ltd., 286 Pentonville Road, London, N.1, £2,927 (recommended).

South Shields, Dur.—Construction of road and sewers in Tudor Street, for the B.C. John Reid, borough engineer—Direct Labour, £26,500.

Stoke-on-Trent, Staffs.—Following for City Council: Preliminary street works and sewers on the Foxley Lane, Milton site—Mobrad (Midlands), Ltd., Brierley Hill, £3,469 recommended, subject to Ministry approval).

Improvement works at Weston Road from Uttoxeter Road to Corneliouse Street, Meir—Roy Beech (Contractors), Ltd., North Street, Stoke-on-Trent, £7,114 (recommended, negotiated tender, subject to Ministry approval).

Thetford.—Improvement of Green Lane for B.C. W. R. F. Jennings, borough engineer and surveyor—Ayton Asphalt Co., Ltd., Browick Works, Wymondham, Norfolk, £5,526 (accepted); Tooley and Youngs, Ltd., £5,609; Goddards of Thetford (1954), Ltd., £5,843. Work commencing Nov. 1.

Wandsworth.—Highway improvement at Amen Corner, Tooting, for B.C.—Direct Labour, £7,553 (recommended).

Wednesfield, Staffs.—Works on 14 district roads in conjunction with the Council's maintenance programme, 1961-62, for U.D.C. The works comprise 1,500 lin. yd. of kerbs and foundations, and 4,500 sq. yd. of tarmacadam to carriageways, together with ancillary works. T. A. Peacock, engineer and surveyor—Wrekin Construction Co., Ltd., Horsehay, Salop. Work commencing this month.

West Hartlepool, Dur.—Construction of roads and sewers on the Owton Manor housing estate (section 6b extension) for the B.C. J. S. Miles, borough engineer—Direct Labour, £8,245.

West Lothian.—Site preparation work at Glebe for C.C.—Robert Anderson (P.W.C.), Ltd., Armadale, £44,074.

Wood Green, Middx.—Resurfacing of district road with Resmat 99 for B.C.—William F. Rees, Ltd., 54 Victoria Street, London, S.W.1 (recommended, negotiated tender).

Worcester.—Site completion works on part II, stage I, of the Warndon estate and at Rea Way for City Council—M. Walsh and Sons (Malvern), 43 Hornyold Road, Malvern, £35,294 and £4,942, respectively (recommended, subject to Ministry approval).

Worksop, Notts.—Following for B.C.: Private street works, Kilton Terrace—William Prestwich, Dronfield, near Sheffield; machine surfacing of approximately 14,700 sq. yd. of carriageway in the borough—Staveley Slag Sales, Staveley, near Chesterfield.

Worthing, Sussex.—Following for B.C.: Making-up of footways at Alinora Crescent—T. N. Searle (Public Works), Ltd., Worthing, £4,599.

Aerial survey required for the Heene Road Bridge scheme—Meridian Airmaps, Ltd., Shoreham-by-Sea, £2,050 (recommended).



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SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Bolton, Lancs.—Construction of a trunk outfall sewer for the Bolton and District Joint Sewerage Board—G. Dew and Co., Ltd., Main Road, Oldham. Estimated cost £350,000.

Brackley, Northants.—Construction of approximately 4,500 lin. yd. of 6in. concrete sewers, 800 lin. yd. of 5in. spun-iron rising main, the construction of a sewage pumping station, a sewage disposal works, and other ancillary works for the main drainage of Upper and Lower Boddington, B24/17, contract 1, for R.D.C. Howard Humphreys and Sons, consulting engineers, West Street, Epsom, Surrey—Kimbell Construction, Ltd., Northampton, £58,356. Work commencing shortly.

Chard, Som.—Construction of about 7,090 lin. yd. of 9in. and 6in. sewers, together with 88 manholes and a new sewage disposal plant with tanks, filters, drying beds, and all ancillary work, at Broadway, near Ilminster, for R.D.C. Harvey McGill and Hayes, consulting engineers, 38 Market Place, Chippenham, Wilts.—W. Coombes and Sons, Newlands, Ilminster, Som., £49,996.

Ely, Cambs.—Contract 1, Stretham sewerage scheme, for R.D.C., comprising the provision and construction of about 4,700yd. of 4in., 6in., 9in. and 12in. diameter cast-iron, concrete and glazed ware sewers, and lateral connections; 1,300yd. of 4in. and 5in. diameter cast-iron rising mains; two pumping stations and sewage disposal works comprising sedimentation tanks, filters, humus tanks, sludge drying beds, ejector station, and other works incidental thereto. A. P. I. Cotterell and Son, consulting engineers, 54 Victoria Street, Westminster, S.W.1—Darby's Sand and Gravel Co., Ltd., The Brook, Sutton, Cambs., £57,459 (recommended, subject to Ministry approval).

High Wycombe, Bucks.—Proposed diversion of Hughenden Stream for B.C.—A. and B. Construction, Langley, £9,120 (recommended, subject to Ministry approval).

Lexden and Winstree, Essex.—Great Tey sewerage and sewage disposal scheme, for R.D.C., involving the construction of

2,000yd. of 6in. diameter sewers and a small sewage disposal works, comprising deiritus tank, settlement tanks, circular filter bed, humus tank, sludge drying beds and other appurtenant works. Elliott and Brown, consulting engineers, Stanley House, Pelham Road, Nottingham—Vibrated Concrete Construction Co., Ltd., 27 Ashley Place, Westminster, S.W.1, £25,959. Work commencing November.

Maidstone, Kent.—Supply of filter media required for the percolating filters (contract M.16) and floor drainage tiles for the circular filters (contract M.17) at Aylesford sewage disposal works, for B.C.—Croft Granite Brick and Concrete Co., Ltd., Salisbury House, Finsbury Circus, London, E.C.2, £45,996, and Naylor Bros. (Denby Dale), Ltd., Denby Dale, Huddersfield, £7,154, respectively (recommended, subject to Ministry approval).

Minworth, Worcs.—Following for Minworth new works for the Birmingham and Tame Rea District Drainage Board: Specification E.33—supply and off loading of thermoplastic and paper-insulated wire armoured cables—Associated Electrical Industries, Ltd., 76-80 Sherlock Street, Birmingham 5, £1,245; supply of approximately 10 tons of cast-iron flanged pipe specials—Clay Cross (Iron and Foundries), Ltd., Clay Cross near Chesterfield, £1,262. Work commenced.

Supply of salt-glazed stoneware bacteria bed tiles to cover 3,000 sq. yd. of bed floor, and an additional provisional quantity to cover an area of up to 2,000 sq. yd.—H. R. Mansfield, Ltd., Railway Works, Church Grosley, Burton-on-Trent, £2,888. Work commencing August, 1962.

Northampton.—Laying of approximately 860 lin. yd. of 15-24in. diameter precast concrete pipes, and ancillary works, for B.C. T. C. Taylor, borough engineer—Midland Construction, Ltd., 47-50 Lower Dartmouth Street, Birmingham, 9, £13,937 (recommended).

Oxford.—Soil survey in connection with the main outfall, North Oxford and Headington Quarry relief sewers for City Council—Le Grand Adco, Ltd., Southall, Middx., £1,236 (recommended).

St. Albans, Herts.—Provision of foul water sewers at Harpenden Road/Sandridgebury

Lane and Waverley Road/Townsend Drive, for City Council—M. J. Clancy and Sons, Ltd., 715 Harrow Road, Wembley, Middx., £13,169 and Rebuild, Ltd., £1,231 respectively (recommended).

St. Austell, Corn.—St. Stephen sewerage scheme for R.D.C., involving the construction of sewerage and sewage disposal works. This comprises the enlargement and alteration of the existing works at Gwindra, the construction of three pumping stations, the laying of approximately 950 lin. yd. asbestos-cement rising main, and other ancillary works. A. W. Townsend, engineer—A. H. Dinale, Seton, Redruth, £28,340.

Scunthorpe, Lincs.—Drainage of an area of land at Quibell Park for B.C.—J. P. Walsh and Co., Ltd., £1,048 (recommended).

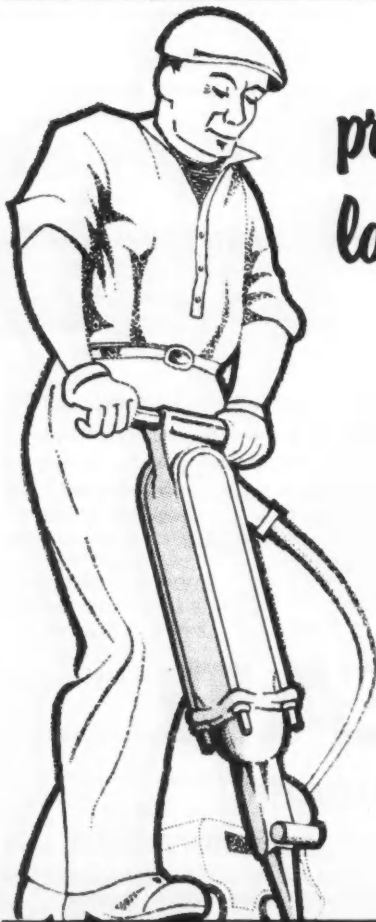
Sevenoaks, Kent.—Kensing (contract 2) sewerage scheme, for R.D.C., including the construction of approximately 2,370 lin. yd. of 6in. and 8in. diameter pitch fibre sewers and 32 brick manholes—R. Marchant and Sons, Morleys Road, Sevenoaks Weald, Sevenoaks, £14,647.

Shepshed, Leics.—House drainage and water services, Glenmore estate, for U.D.C., including laying approximately 400 lin. yd. of 4in. and 6in. storm and foul drains and 150yd. of lin. and 3in. water services. McCarthy Collings and Co., architects, 187 Forest Road, Coalville—Reliable Roads (Shepshed), Ltd., Charnwood Road, Shepshed, Leics., £1,049 (accepted); Orton and Dalby, £1,275; R. J. S. Contractors and Smith Excavations, £1,377; Cecil Williamson, Ltd., £1,710. Work commencing Nov.

Walton-le-Dale, Lancs.—Sewage disposal works for U.D.C. Charles J. Lomax and Son, 68 Barton Arcade, Manchester, 2, consulting engineers—R. T. Haley and Co., Ltd., Hunsworth, Cleckheaton, Yorks., £317,700.

Wandsworth.—Sewer reconstruction works in Chestnut Groves, Clapham Manor Street, Cressett Street, Gauden Road and Stonehouse Street, for B.C.—Lavelle's Plant Hire (London), Ltd., 22 Leppoe Road, London, S.W.4, £102,326 (recommended).

Worthing, Sussex.—Construction of sewer at Tarring Road for B.C.—M. J. Clancy and Sons, Ltd., Wembley, Middx., £43,615 (recommended).



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STREET LIGHTING

Burnham-on-Sea, Som.—Contract 46—Provision and erection of concrete columns, sodium and vertical fluorescent lanterns, and provision of mercury lanterns on the B.3140 Pier Street, North Esplanade and Sea View Road for U.D.C. G. Harvey Mayhew, engineer and surveyor—Atlas Lighting, Ltd., Thorn House, Upper St. Martin's Lane, London, W.C.2, £2,577, and Engineering and Lighting Equipment Co., Ltd., Sphere Works, Campfield Road, St. Albans, Herts., £9,791, respectively.

Chatham, Kent.—Removal of street lamps at High Street (part) and supply and erection of new lamps, for B.C.—South Eastern Electricity Board, £1,041 (recommended).

High Wycombe, Bucks.—Supply of columns and lanterns for street lighting improvement for B.C.—E. and L. Equipment Co., Ltd., Sphere Works, St. Albans, Herts., £3,307 (recommended).

Luton, Beds.—Following for the current street lighting improvement programme for B.C.: Erection and wiring of 720 class B columns—Anderson and Healey, Ltd., Huddersfield, £1,620; supply of 720 lanterns and 720 sodium tubes, vacuum jackets, transformers and condensers—Engineering and Lighting Equipment Co., Ltd., St. Albans, £1,998 and £3,783, respectively; supply of 720 time switches—Horstmann Gear Co., Ltd., 93 Newbridge Road Bath, £2,397 (recommended).

GOVERNMENT CONTRACTS

Admiralty.—Particulars of contracts over £4,000 in value placed by Navy Works Department:

Warwickshire: repairs to roofing—The Ruberoid Co., Ltd., Birmingham.

Devonshire: extension of hot water system—G. N. Haden and Sons, Ltd., Torquay.

Warwickshire: re-roofing—H. Clarke and Son, Ltd., Coventry.

Air Ministry.—Contracts to the value of £4,000 or over for the week ended Sept. 29:

Building work: Ringstead, Dorset—Dudley Coles, Ltd., Plymouth Devon; Newton, Notts.—Henry James (Mansfield), Ltd., Mansfield, Notts.; Collafirth, Shetlands—R. Pert and Sons, Ltd., Montrose, Angus.

Artificers' work: Buchan (Aberdeenshire), etc.—James Cran, Peterhead, Aberdeens.; West Freugh, Stranraer, Wigtonshire—J. Brown and Son (Building Contractors), Ltd., Stranraer, Wigtowns; Sopley (Hants), etc.—Willcocks and Stephens, Ltd., Paignton, Devon.

Painting work: Gaydon, Warwicks.—Quick Bros. (Newport), Ltd., Hallen, Bristol.

High pressure hot water central heating plant (supply and installation): Upper Heyford, Oxford—Brightside Heating and Engineering Co., Ltd., Birmingham, 3.

Berry and Sons, Ltd., Westminster, London, mains, etc.; Fylingdales, Yorks.—Z. D. Installation of high pressure hot water S.W.I.

Ministry of Finance, Northern Ireland.—Contracts exceeding £250 in value placed during the period Sept. 18 to Sept. 29, inclusive:

Low pressure hot water heating, etc.: Post Office, Omagh—Brightside Heating and Engineering Co., Ltd., 36-40 Victoria Square, Belfast, 1.

Low pressure hot water heating, etc.: R.U.C., Augnacloy—G. N. Haden and Sons, Ltd., 32 Linenhall Street, Belfast, 2.

Erection of new kitchen: R.U.C. Depot, Enniskillen—Henry Pierce and Sons, Ltd., 27 Darling Street, Enniskillen.

Construction of new office building: Banbridge—Henry Cole, 13 The Mall, Newry.

Installation of safety pushes, etc.: Ministry of Education, Stranmillis Training College—The Rotary Electric Co. (Belfast), Ltd., 25 North Thomas Street, Belfast, 15.

Construction of new office building: Ministry of Finance, Strabane—J. A. Gamble, Dock Street, Strabane.

Resurfacing roadways, etc.: Customs and Excise, Newtownbutler—P. Clarke and Sons, Ltd., Slushill Quarries, Lisnakea.

Supply, etc., low pressure hot water heating boiler: R.U.C., Musgrave Street, Belfast—Johnston Bros. and Wilson, Ltd., 59 Ravenhill Road, Belfast, 6.

New entrance, concrete drive and car park: Ministry of Labour and National Insurance, Limavady—R. J. Holmes, Market Street, Limavady.

Alterations and extensions: Telephone Engineering Centre, Pennyburn—John Eakin and Co., Ltd., 100 Strand Road, Londonderry.

External painting: North Telephone Exchange, Belfast—W. H. Reid (Decorator), Ltd., 78 King Street, Belfast, 1.

Internal cleaning and painting: Post Office, John Mitchell Place, Newry—Alexander Hanna, Ltd., Basin Walk, Newry.

Ministry of Works.—Contracts placed for week ended Sept. 23:

Glamorgan: Neath—erection of telephone exchange—Griffith Davies and Co., Ltd., Paxton Yard, Swansea.

Hampshire: National Gas Turbine Establishment, Pyestock—additional locking services for air valves—Alley and MacLellan, Ltd., Bromyard Road, Worcester; Ordnance Survey Office, Southampton—supply, delivery and erection of prefabricated building—Vic. Hallam, Ltd., Langley Mill, Nottinghamshire.

Kent: Tunbridge Wells—erection of a Crown office building—Humphreys, Ltd., 199 Knightsbridge, London, S.W.17.

Lancashire: Huyton—erection of telephone exchange—R. Costain and Sons (Liverpool), Ltd., Batlows Lane, Liverpool, 9.

London: West Wing, Somerset House—builders' work on service lift—T. G. Waterman, Ltd., 187-9 Whitechapel Road, E.1; Somerset House—renewal of lift—Keighley Lifts, Ltd., 16 Conduit Street, W.1; Post Office, Northern District Office, 116 Upper Street, N.1—provision of welfare accommodation in boilerhouse block—T. G.

Waterman, Ltd., 187-9 Whitechapel Road, E.1; Metropole Buildings, Northumberland Avenue, S.W.1—erection of electric goods lift—Aldous and Campbell, Ltd., 102 Great Dover Street, S.E.1; Telephone Exchange, Tulse Hill, S.E.—alterations to welfare accommodation—Stegradon London, Ltd., 69 Knights Hill, S.E.27.

Middlesex: Government Building, London Road, Stanmore—asphalt roofing—General Asphalte Co., Ltd., Grafton Road, London, N.W.5.

Northamptonshire: Post Office, Hardingstone—erection of telephone exchange—Tandy and Richmond, Ltd., Pitsford Brickworks, near Pitsford, Northampton; Post Office, Kettering—erection of motor transport workshop—A. J. G. Potter and Sons, Ltd., Stanwick, Wellingborough.

Shropshire: Church Stretton—erection of automatic telephone exchange—John Bramley and Sons, 74 Watling Street, Church Stretton.

Warwickshire: Birmingham—erection of telephone engineering centre—J. J. Gallagher, Ltd., 28-36 Lea Road, Birmingham, 11.

Post Office.—Contracts for duct laying, etc., works to the value of £4,000 and over placed during the week ended Sept. 30:

J. E. Billings and Co., Ltd., 54 Beddington Lane, Croydon, Surrey; Hugh Brown (Engineers), Ltd., Chart Road, Ashford, Kent; John Brown and Sons (Wolverhampton), Ltd., Chell Street, Hanley, Stoke-on-Trent, Staffs.; A. R. Cleghorn and Co., Ltd., 34-36 Harvey Lane, Norwich, Norfolk; Crawford and Cryan, Ltd., 124 Stafford Road, Wallington, Surrey; Dowsett Engineering Construction, Ltd., Dowsett House, Durham Road, Gateshead-on-Tyne, 9; The Norwest Construction Co., Ltd., Litherland, Liverpool, 21; John O'Dea, Ltd., 145 Otley Old Road, Lawnswood, Leeds, 16, Yorkshire; William Press and Son, Ltd., 22 Queen Anne's Gate, Westminster, London, S.W.1; Stanley Raymond and Co., Ltd., Sussex Road, Southall, Middlesex; George Taylor (Wolverhampton), Ltd., The Viewlands, Cross Road, Albrighton, Wolverhampton, Staffs.; Alexander Thomson and Co. (London), Ltd., 45A Kensington High Street, London, W.8; P. J. Walls and Bros, Ltd., Saintfield Road, Carryduff, Belfast, Northern Ireland.

War Department.—Contracts placed for the week ended Sept. 22:

Devon (Exeter): building—W. E. R. Howell and Son, Ltd., Exeter.

Hampshire (Farnborough areas): miscellaneous—P. J. Hartel (Southern), Ltd., Southampton.

Kent (Ashford): building—R. J. Barwick and Sons, Ltd., Dover; (Eltham): building—Halse and Sons, Ltd., London S.E.8; (Woolwich): miscellaneous—J. Garrett and Son, Ltd., London, S.W.12.

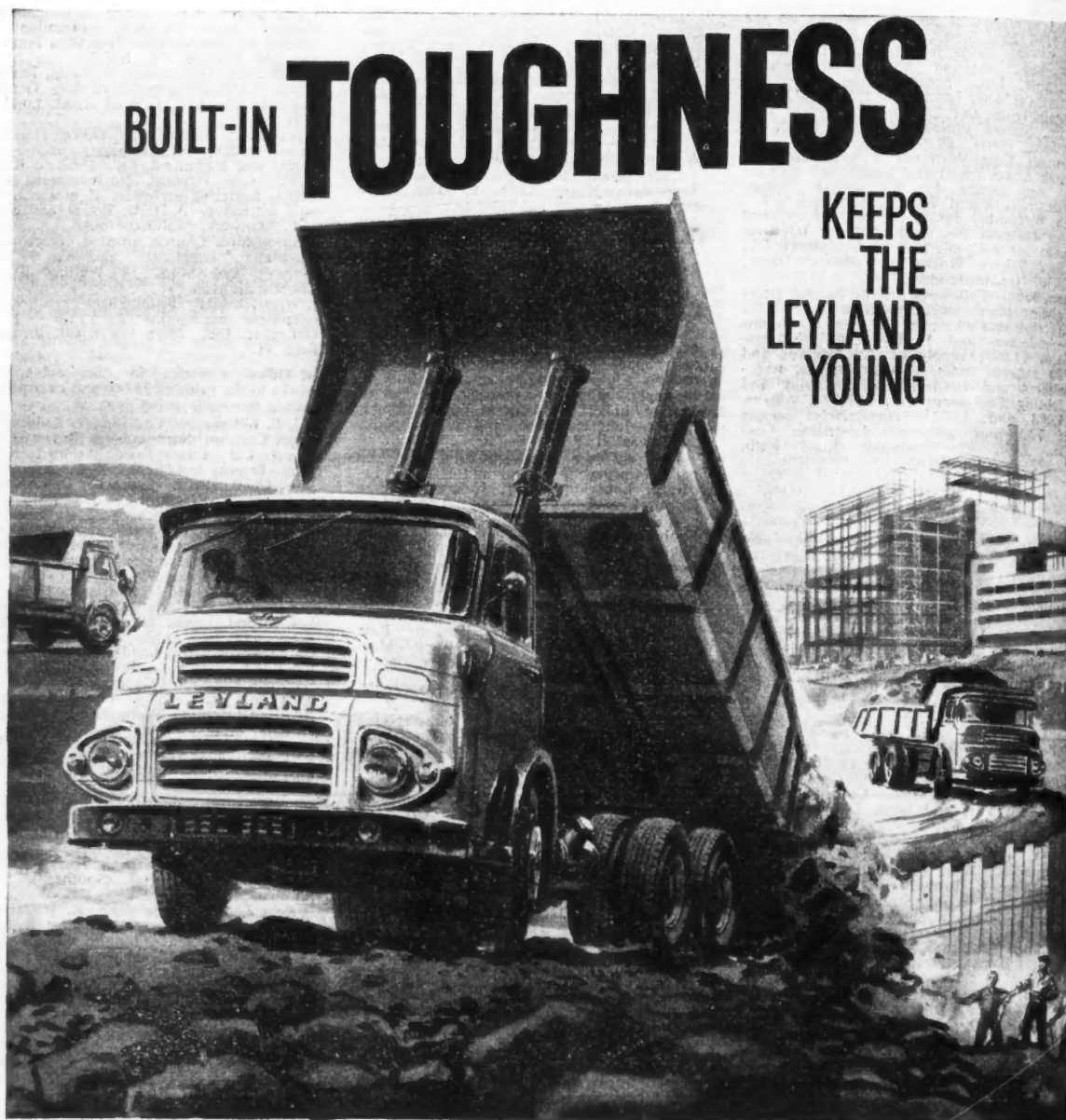
Northumberland (Otterburn): gun spurs—T. Muckle and Sons, Ltd., Rothbury.

Shropshire (Donnington): painting—Thomas E. Talbot and Son, Ltd., Stoke-on-Trent.

Staffordshire (Branston): insulation—Dick's Asbestos Insulating Co., Ltd., Nottingham.



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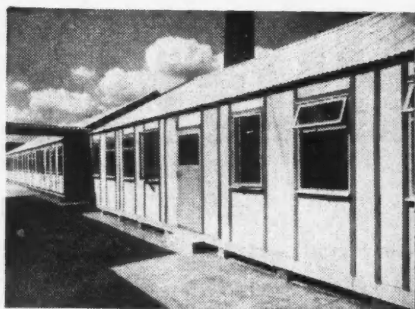
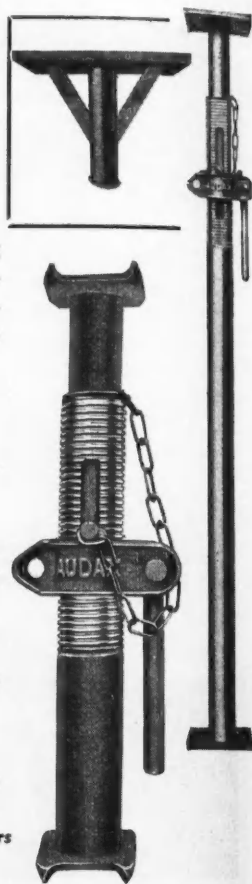
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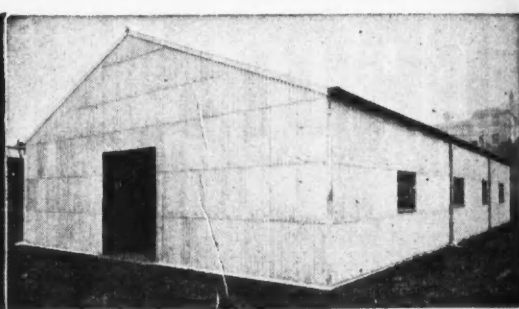
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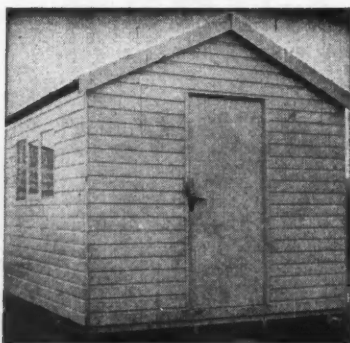
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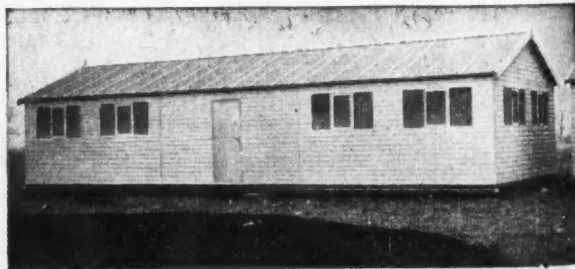
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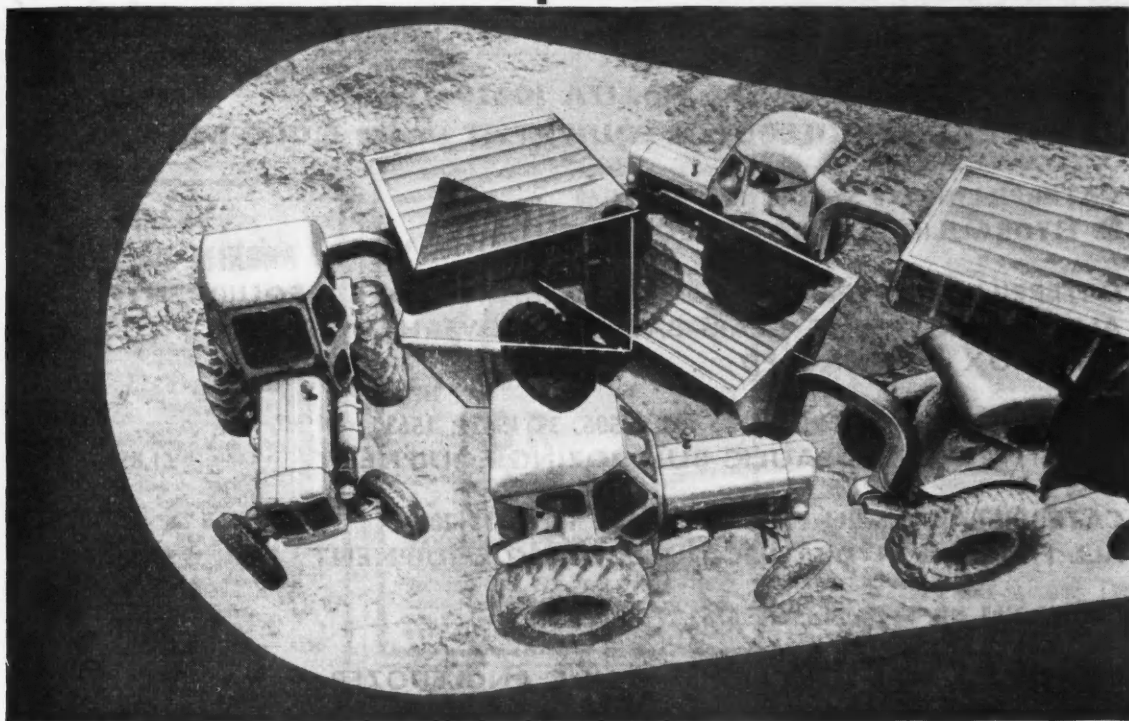
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(Continued from page 1782)

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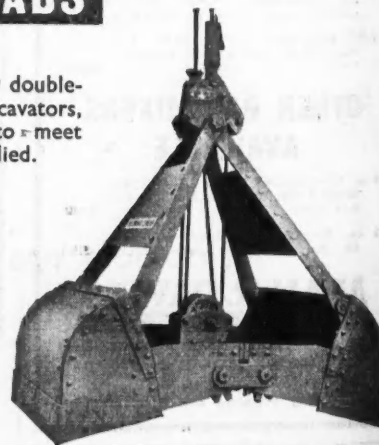
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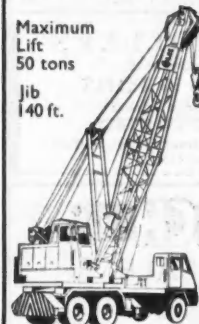
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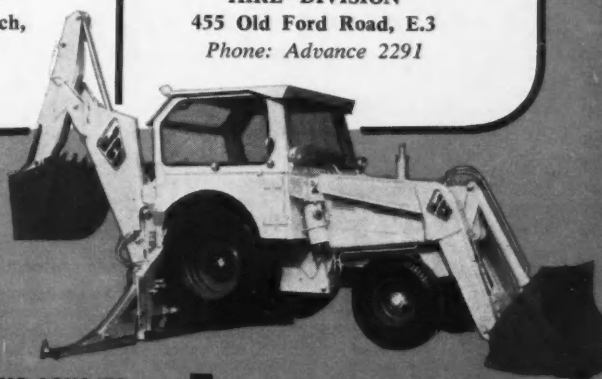
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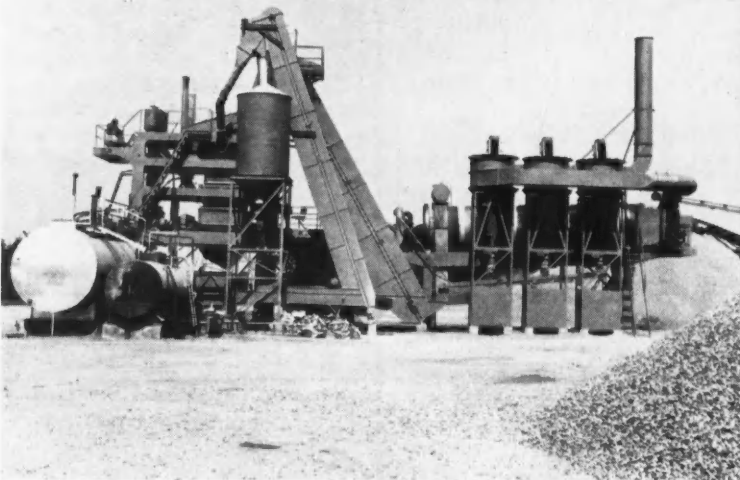
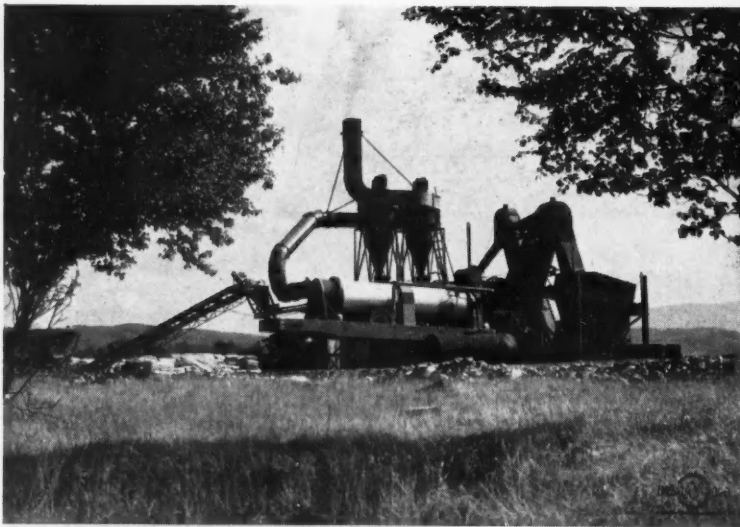
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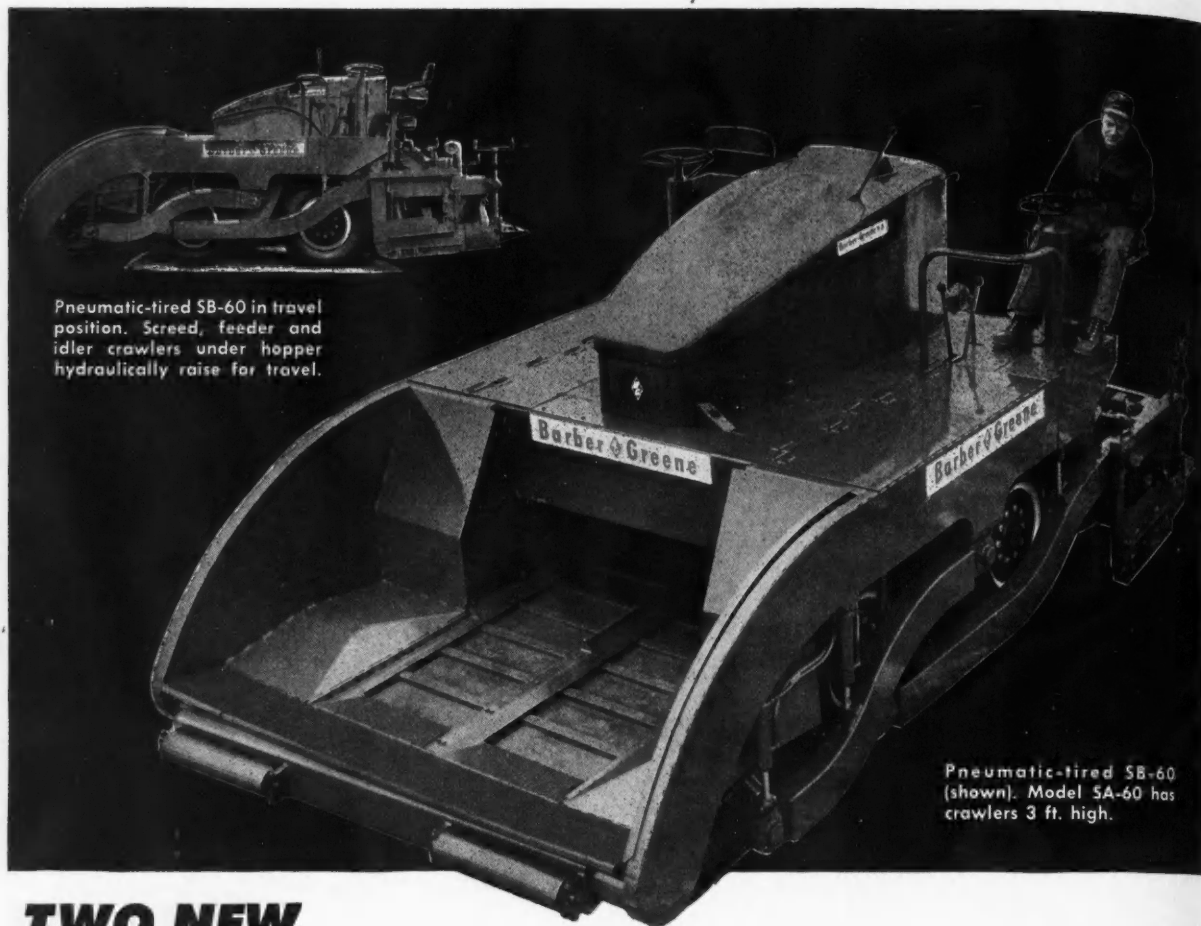
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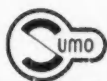


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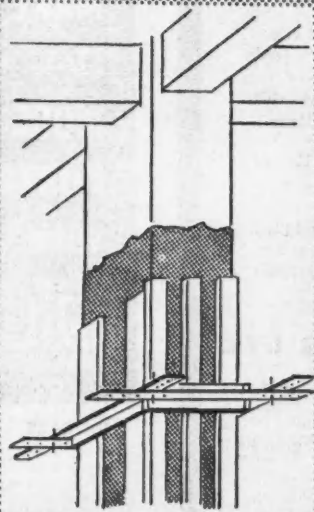
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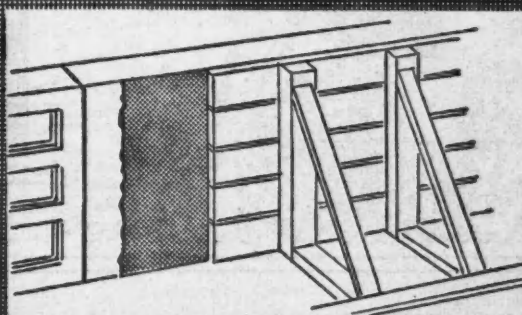
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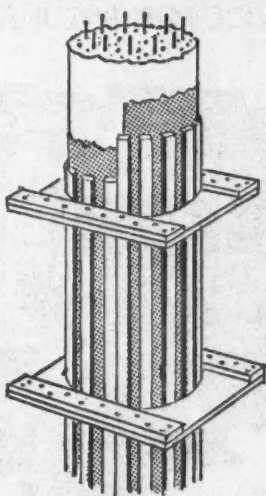
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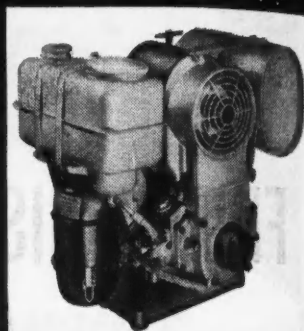
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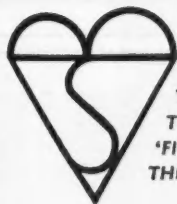
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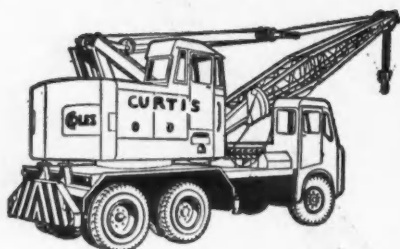
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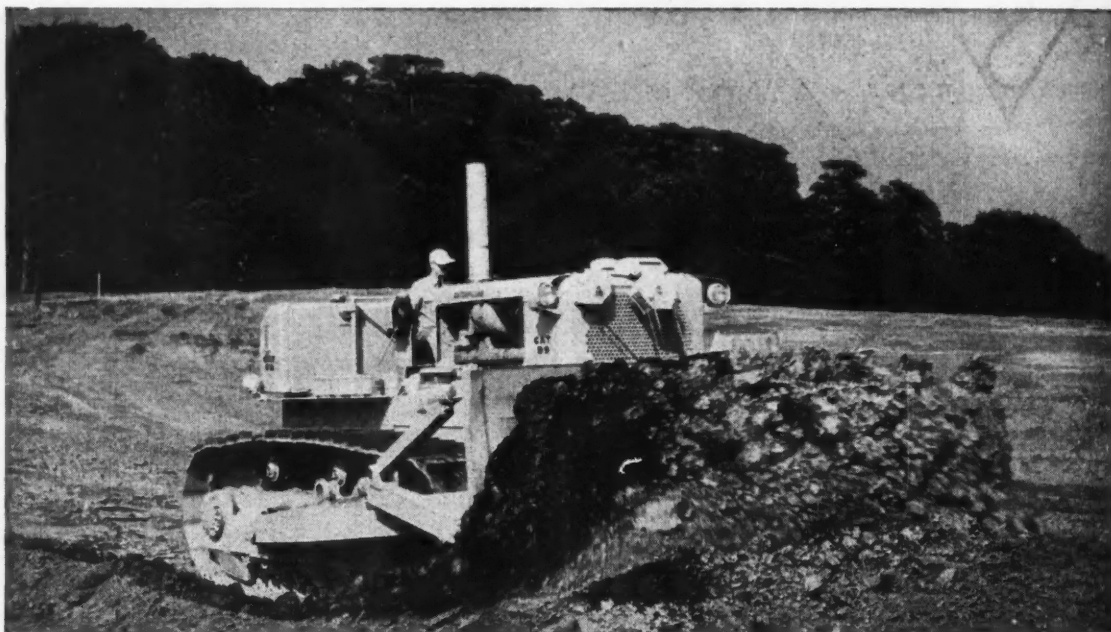
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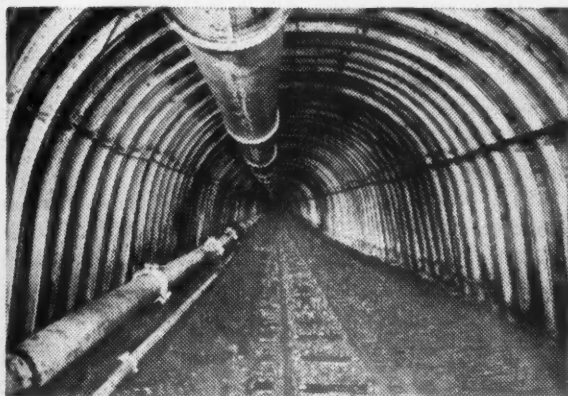
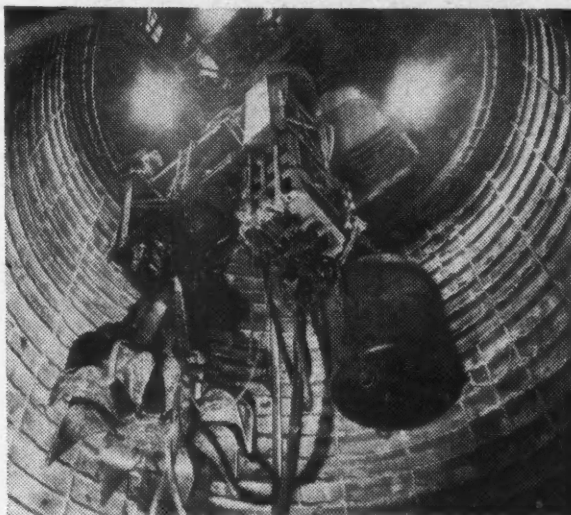
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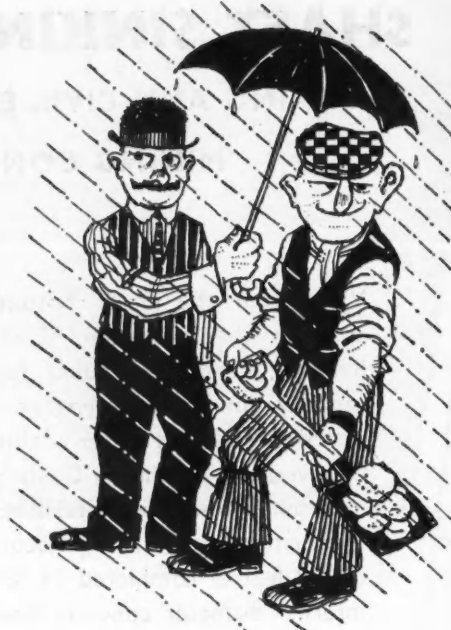
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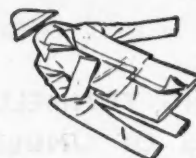
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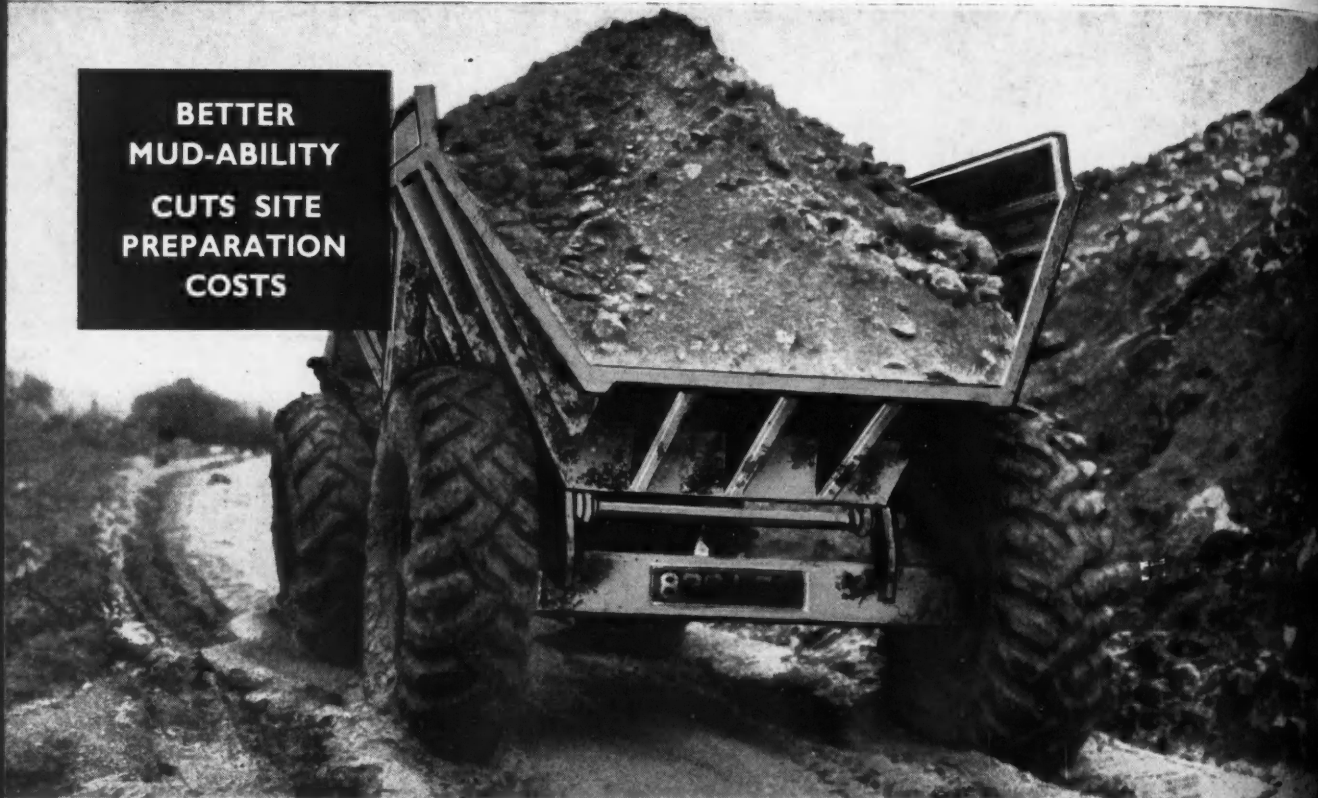
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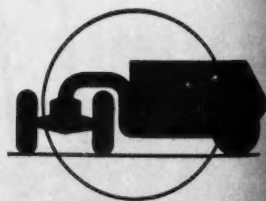
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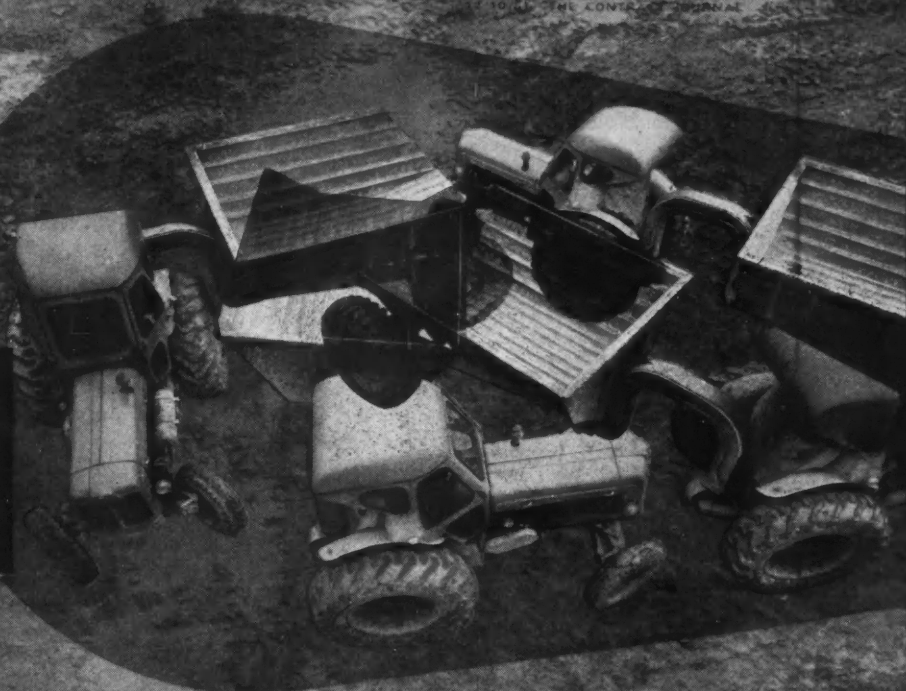
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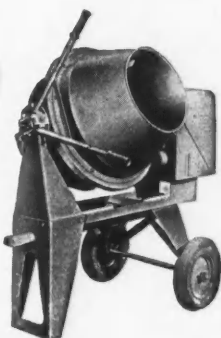


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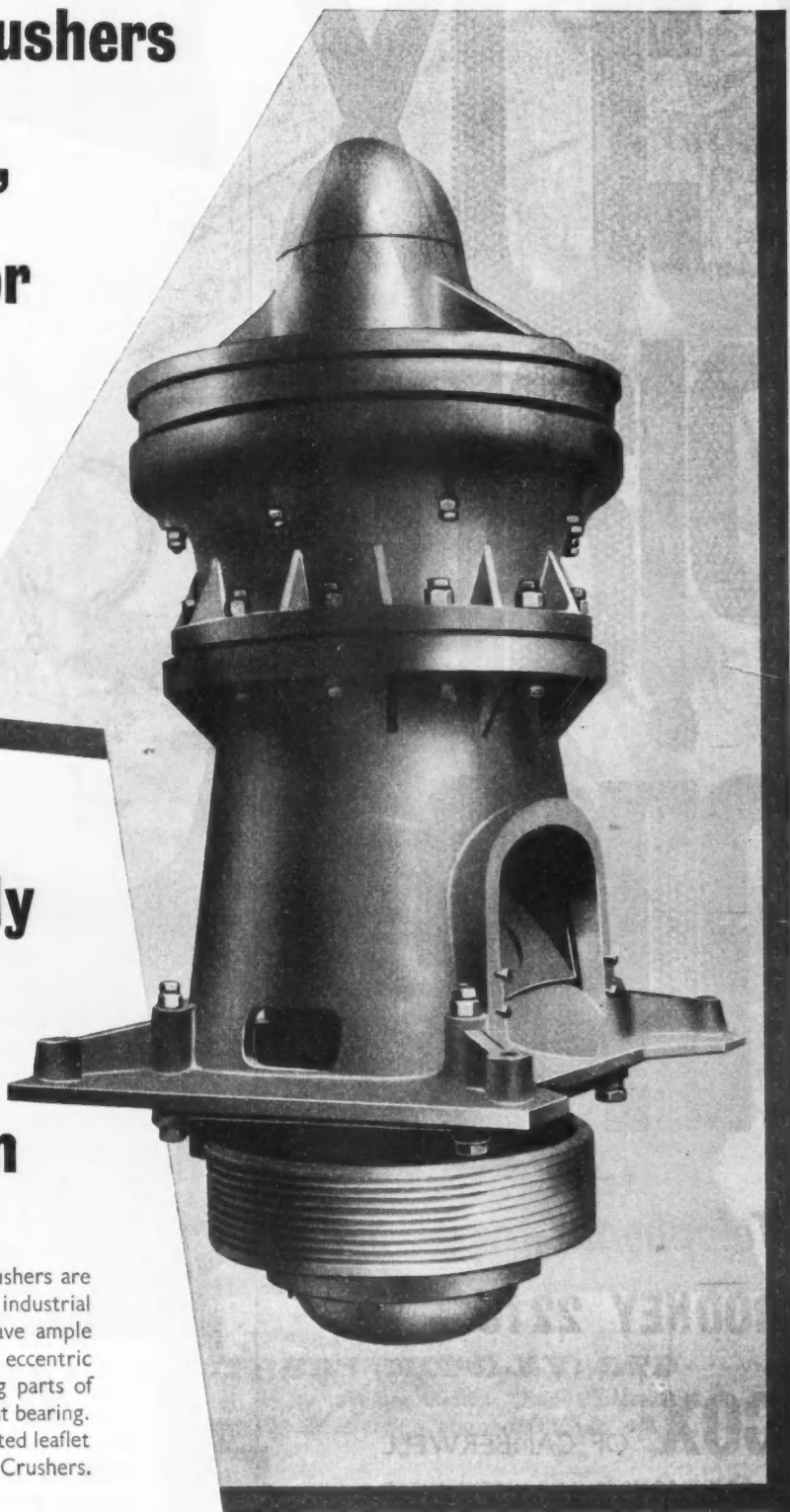


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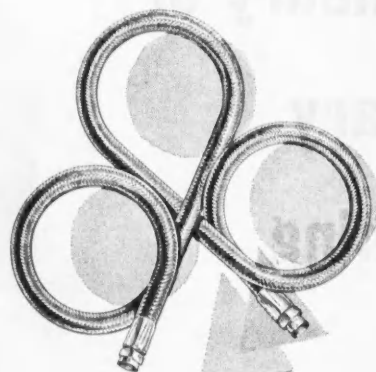
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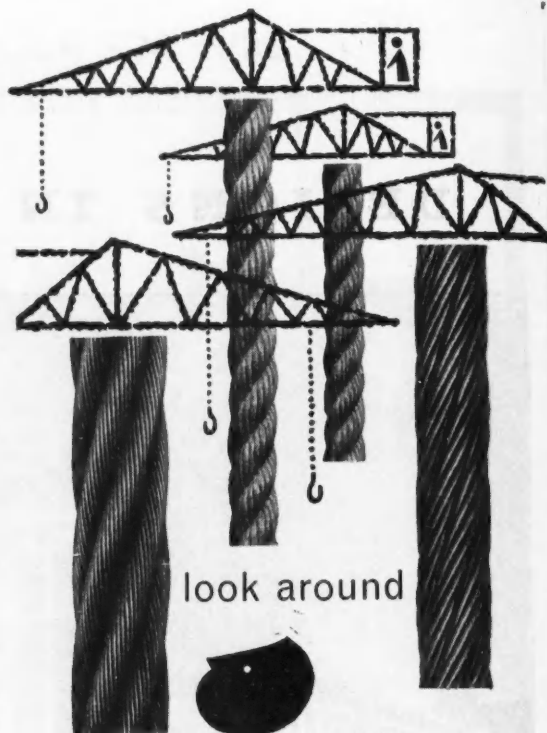
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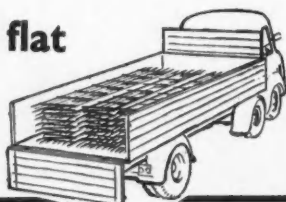
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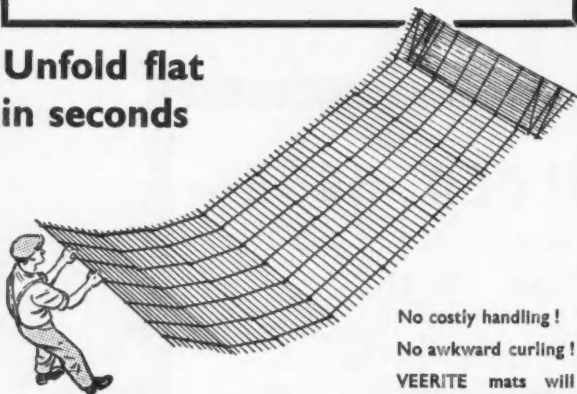
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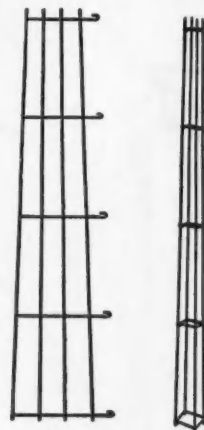
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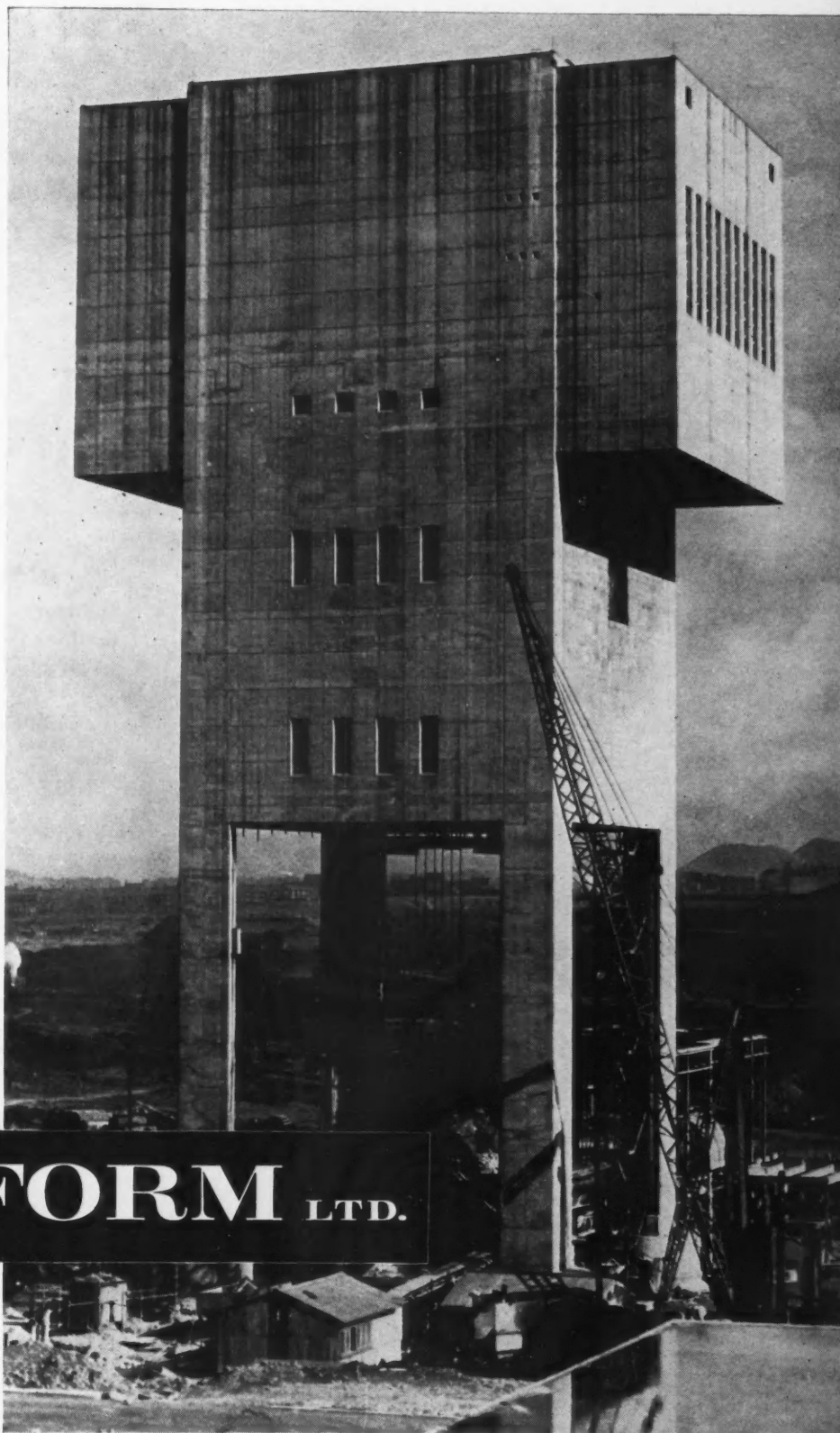
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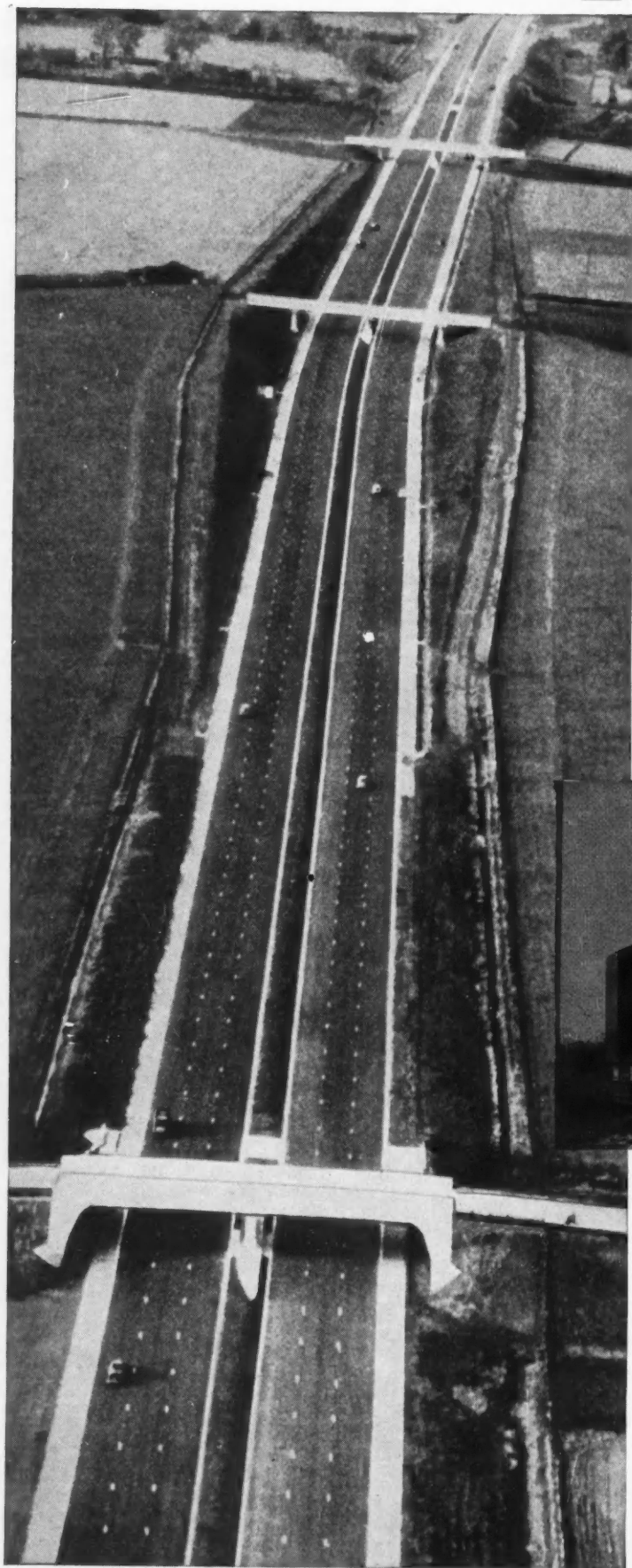
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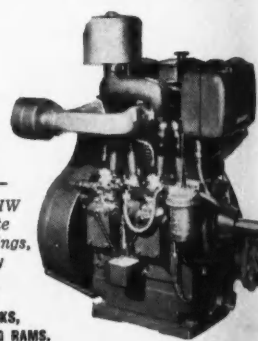


PETTER AT THE NEW SPENCER STEEL WORKS, LLANWERN—On the site of this £120,000,000 development (Richard Thomas & Baldwins) more than 200 pieces of plant, including mixers, dumpers, pumps, generators, welding sets, bar-benders, cranes, excavators, vibrators and saw-benches are Petter powered! MAIN BUILDING AND CIVIL ENGINEERING CONTRACTORS: Sir Robert McAlpine (South Wales) Ltd.

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CONTRACTORS: Cubitts Fitzpatrick Shand.



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(CONTRACTORS: George Wimpey and Company Limited.)



PETTER ON ROADS AND PUBLIC WORKS—Petter diesels powered a variety of contractors' plant used over the new 5½-mile Maidenhead By-pass, including this vibrator roller (CONTRACTORS to the Bucks County Council: Higgs & Hill Ltd). Other by-pass constructions where Petter-powered plant was continuously at work include Ross spur, Doncaster and St. Albans.

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These pictures cover a period of five minutes. Above, the pump—a Bibo 3—arrives on site in the boot of a car. Note how easily one man handles it!

Into the muddy water it goes. It's submersible, so there's nothing to worry about, even if you dunk it all the way under.

Next step: laying out the hose and motor cable. Now the power is on, the pump is at work, and in a minute or so the sump is empty. You needn't watch it—a FLYGT submersible can safely run on snore all day long.



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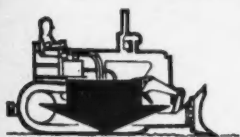
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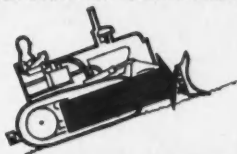
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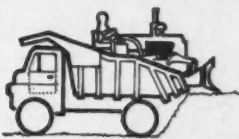
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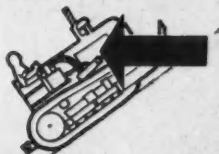
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ALRESFORD SAND AND BALLAST CO., LTD., Alresford Creek, near Colchester, Essex. (Tel.: Wivenhoe 341/494.) Pits at Alresford Creek, Brightlingsea, Bocking, Bures and Holland. All grades of washed shingle, concreting sand and building sand. Road and water transport.

BAKER, F. AND E., LTD., 73 High Road, Rayleigh, Essex. (Tel.: Rayleigh 1031/2.) Pits at Great Totham, Heybridge and West Tilbury. All grades of washed material supplied and delivered: also hardcore, ashes and bricks.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

BUCRICHS COMPANY, LTD., Sand and Ballast Pits, Martlesham, Suffolk. (Tel.: Ardingh 310.) All grades of washed aggregates, sand, building sand, asphalt, grit. Sterilised dry sand accurately graded to buyers' requirements.

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

FERRIS PITS, LTD., The Limes Garage, Fencepiece Road, Barking, Essex. (Tel.: Hainault 5271/2-3001/2.) Pits at Orsett, near Stanford-le-Hope, and Upminster. All grades of washed aggregates, plastering and building sands supplied and delivered, also hardcore.

HALL AND CO., LTD., Manor Road, Romford. (Tel.: Romford 42321.) Pits at Upminster, Boreham and Linford, near Grays. Gravel aggregates, concreting, plastering and building sand.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

HUNNABLE, F. A. AND SON, LTD., Rayne Road, Braintree, Essex. (Tel.: Braintree 151 and 1351.) Graded washed stone, 1/4 in. to rejects: washed concreting sand and washed soft building sand. Classified sand for asphalt. Ready mixed concrete to all grades. Pits at Braintree, Bocking, Beasley End, Hedingham and Alpheton.

KENRICK, W., LTD., 92 Waterloo Road, Romford, Essex. (Tel.: 42481/2.) Supply and deliver all grades of sands, ballast and shingle, asphalt grits, granite aggregate. Rubbish clearance. Tip available at Upminster.

LEIGH BUILDING SUPPLY CO., LTD., Head Office: 956 London Road, Leigh-on-Sea, Essex. (Tel.: 78264—5 lines.) All grades washed materials, building sand, hardcore, ashes, bricks, granite.

PETERS AND BARNHAM, LTD., 309 South Street, Romford. (Tel.: Romford 44141—7 lines.) Washed and crushed gravel, all sizes. Sand pits at Asheldham, Chignal St. James, Dagenham, Great Waltham, North Ockendon, Rowwell, West Thurrock, Romford and Thorpe-le-Soken.

PINCH, L. A. AND A., LTD., Upper Rainham Road, Elm Park, Hornchurch, Essex. (Tel.: Hornchurch 4891/2/3/4.) Haulage, all aggregates and excavation.

READ, P. T., LTD., Fairlop Airfield, Forest Road, Ilford. (Tel.: Hainault 6111/2/3.) High-grade sands, ballast and shingles supplied and delivered; also ready-mixed concrete.

ST. ALBANS SAND AND GRAVEL CO., LTD., London Colney, St. Albans, Herts. (Tel.: Bowmans-green 2271.) Pits at Meadegate Road, Nazeing; Station Road, Waltham Abbey.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4 and Hainault 2323.) Pits at St. Ives and Gosfield, near Hainault.

STANWAY CONTRACTS, LTD., Upper Edwards Hall, Eastwood, Southend-on-Sea. (Tel.: Eastwood 55161.) Sand and gravel pits at Rochford and Woodham Walter. Graded aggregates supplied or delivered.

WIVENHOE SAND, STONE AND GRAVEL CO., LTD., Wivenhoe, near Colchester, Essex. (Tel.: Wivenhoe 231.) High quality washed aggregates of all grades.

GLOUCESTERSHIRE

BENGRIY AND SONS, LTD., Longmoor, Kingsland, Leicester. Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

COKE, T. F. (CHELTENHAM), LTD., 267 Gloucester Road, Cheltenham. (Tel.: Cheltenham 4717/4874.) Sand, graded gravel aggregates, hardcore, limestone, chippings, tarred and bituminous limestone, concrete blocks, fence posts, etc.

CROMHALL QUARRIES, LTD., Cromhall, Wotton-under-Edge, Glos. (Tel.: Fairfield 346/7.) Concrete aggregates, pre-graded, in large quantities. Tarmacadam, tarpaving, bituminous macadam and cold asphalt to B.S.S. for hand or machine laying.

GRIFFITHS, A. AND SONS, Churchdown, Gloucester. (Tel.: Churchdown 3135 and 2216.) Pit, quarry and dredger owners. All grades and types aggregate materials.

HALL AND CO., LTD., Longmoor House, Ashton Vale Road, Bristol, 3. (Tel.: 63001.) Gravel aggregates, concreting, plastering and building sand.

Rates for insertion in this GUIDE will be forwarded on application

CONTRACTORS'

GUIDE

TO AGGREGATES

GLOUCESTERSHIRE

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

NORTH WILTS. QUARRYING CO., Noble Street, Sherston, Wilts. (Tel.: Sherston 321—3 lines.) (For details, see entry under Wiltshire.)

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. Concrete aggregates, roadstones, and Dolomitic media.

TAYMAC, LTD., Wootton Bassett, near Swindon, Wilts. (Tel.: Wootton Bassett 591—5 lines.) Cotswold stone, hardcore, washed and graded aggregate, building sand.

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel.: Coleford 158/9.) Tanned and bituminous limestone macadam, asphalt, concrete aggregates, dolomitic media, engineering, facing and common bricks for all purposes. Delivery road or rail.

HAMPSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

BULL BROS. S. AND L. LTD., 126A High Street, Winchester. (Tel.: 2264.) Concrete aggregates (reconstituted, pit-mixed, weightbatched to meet any specification); also ballast, hoggins, path gravel and sand from own pits at Fawley, Lockerley, Ringwood, Romsey, Sway and Totton.

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

HALL AND CO., LTD., Baltic Wharf, Marine Parade, Southampton. (Tel.: Southampton 21234.) and at Portsmouth. Pits at Ringwood, Highbridge and Fawley. Gravel aggregate, concreting, plastering and building sand.

HASKINS, G. AND SONS, Queen Street, Emsworth. For washed sand and graded aggregates, path and road gravels, hoggins, clinker, ashes. (Tel.: Emsworth 2271.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

MIDLAND AGGREGATES, LTD., Eversley, near Basingstoke, Hants. (Tel.: Eversley 2250.) Washed and pit sand and all aggregates.

MOREYS (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggins, path gravel.

NEW MILTON SAND AND BALLAST CO., Lymington Road, New Milton, Hants. (Tel.: 37 and 566.) Guaranteed uncrushed, washed, screened and graded concrete aggregates. All sizes. Washed sharp and fine sand.

NORTH WILTS. QUARRYING CO., Noble Street, Sherston, Wilts. (Tel.: Sherston 321—3 lines.) (For details, see entry under Wiltshire.)

PRIVETT, W. G. AND SONS, LTD., Drayton Lane, Portsmouth. (Tel.: Cosham 70059.) Concrete aggregates, building sand, hoggins, ashes, washed and graded pit, media, etc.

RALPH OF BASINGSTOKE, LTD., 37 Kemshott Lane, Basingstoke, Hants. (Tel.: 85.) Concrete aggregates, building sand, path gravel, hoggins, etc.

TWICKENHAM GRAVEL CO., LTD., Ship Lane, Farnborough (Tel.: 1126); Sandhurst Road, Yateley (Tel.: 2230).

HEREFORDSHIRE

BENGRI AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) Suppliers of all grades of crushed concrete aggregates, road metal, pitching stone, hardcore and coated macadam.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) All grades of tanned and bituminous macadam, roadstone, chippings and concrete aggregates, etc.

OLD RADNOR TRADING CO., LTD., Kingston. (Tel.: 421.) Granite and limestone aggregates, coated macadam, crushed stone.

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961), Salop.

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. Concrete aggregates, roadstones and Dolomitic media.

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel.: 3158/9.) (See Gloucestershire.)

HERTFORDSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

EASTWOODS SALES, LTD., Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 2040.) Broxbourne pit (Tel.: Hoddesdon 2456). Producers and distributors of all grades of washed aggregates.

GABRIEL, C. LTD., Palmers Lane, Enfield, Middx. (Tel.: HOWard 4351/2/3.) Washed aggregates and building sand. Pits at Hertford and Enfield.

HALL AND CO., LTD., Railway Yard, Orchard Road, Stevenage (Tel.: 775), and at Hatfield. Gravel aggregates, concreting, plastering and building sand.

HARTIGAN, G. F. X. LTD. (See Buckinghamshire.)

ST. ALBANS SAND AND GRAVEL CO., LTD., London Colney, St. Albans, Herts. (Tel.: Bowmans-green 2271.) Pits at Smallford Lane, Smallford, and Bramfield Lane, Watford, Marsh Road, Stanstead Abbots.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) and Three Hills Pit, Codicote. (Tel.: Codicote 217.)

TWICKENHAM GRAVEL CO., LTD., Eleanor Cross Road, Waltham Cross. (Tel.: 2338/8.)

WEBB, G. CAMBRIDGE, 25 Magrath Ave., Cambridge. (Tel.: 59966, 53969, 50353 (night).) (See Cambs.)

WINFIELD, HENRY, LTD., Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamstead 1208/9.) Pits at Hemel Hempstead, Watford, West Hyde, Rickmansworth. Concrete aggregates, hoggins, building sand.

HUNTINGDONSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

FERRERS AND AGGREGATES, LTD., Northampton Rd., Quarries, Rushden (2354/5.) (See Northants.)

GRAVEL PRODUCTS (HUNTS), LTD., Little Paxton, St. Neots, Hunts. (Tel.: St. Neots 308.) Pits at Little Paxton, St. Neots, Hunts; and Blunham, Beds.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

NENBARGE AND LIGHTER CO., LTD., Market Chambers, Peterborough (Tel.: 5534/5) and Ship End Quarries, Wansford, near Peterborough (Tel.: Wansford 384/5.) Roadstone, hardcore, broken stone, ballast, ashes, bilva clay and sand.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) Producers of all grades of washed sand and gravel. Ready-mixed concrete. Precast concrete of every description.

WEBB, G. CAMBRIDGE, 35 Magrath Ave., Cambridge. (Tel.: 59966, 53969, 50353 (night).) (See Cambs.)

KENT

BRASTED SAND PITS, Brasted, Kent. (Tel.: 586.) London Office: 1A Eltry Street, S.E.15. (Tel.: New Cross 3337.) Soft and plastering sands, lime and sand-mix dry, hardcore, S.H. bricks, ashes, etc.

BROWN BROS. (SITTINGBOURNE), LTD., Chalkwell Road, Sittingbourne, Kent. (Tel.: Sittingbourne 330.) Sand, ballast, shingle, hoggins, hardcore, clinker, chalk, etc.

CLUBB, J. LTD., Dartford, Kent. (Tel.: Dartford 25431.) Pits in North Kent, Medway area and Sevenoaks district. All washed and crushed gravel aggregates, concreting and building sand.

DIAMOND TREAD CO. (1958), LTD., Ditton Court Quarry, Larkfield, near Maidstone. (Tel.: West Malling 3444.) Quarry owners, tarmacadam, bituminous macadam and dry road stone manufacturers and suppliers. Head Office: 21-22 Old Bailey, London, E.C.4. (Tel.: City 7001—10 lines.)

DIAMOND TREAD CO. (CHART), LTD., Swan Lane Quarries, Little Chart, Ashford, Kent. Quarry owners, tarmacadam, bituminous macadam and dry roadstone suppliers. All inquiries to Area Office: Ditton Court Quarry, Larkfield, near Maidstone, Kent. (Tel.: W. Malling 3444.)

HALL AND CO., LTD., Canning Street, Maidstone. (Tel.: Maidstone 51051.) and at Folkestone and Hayes. Pits at Lunsford, near Larkfield, Riverhead. Gravel aggregates, concreting, plastering and building sand. Supercrete precision-mixed concrete.

HARRIS, M. P. AND CO., LTD., Station Road, Paddock Wood, Kent. (Tel.: 385.) (See Sussex.)

LANCASHIRE

BROOMBYS, LTD., Sandside, Milnthorpe. (Tel.: 3251/2.) Westmorland. (See Westmorland.)

BUCKTON QUARRY, Broken stone, all grades. (Tel.: 123.) Or write Main Road, Oldham.

CASTLETON SAND AND GRAVEL QUARRIES, LTD., Trows Lane, Castleton, near Rochdale. (Tel.: Castleton 5710.) Quarries, Bacup. (Tel.: Bacup 287.) Washed pit sand, crushed washed stone aggregates; pitching stone.

CROXDEN GRAVEL, LTD., Cheadle, Stoke-on-Trent. (Tel.: Stoke-on-Trent 393.) Manchester Office: Blackfriars 3766/7. Plant capacity, 2,000 tons per day.

HARTLEY, JOHN, W. LTD., Lundsfield Quarry, Carnforth, Lancs. (Tel.: Carnforth 100.) Large producer of highest quality washed sands, clean washed natural pebble and crushed gravel aggregates for all construction purposes.

HILTON GRAVEL, LTD., Rice Street, Liverpool Road, Manchester, 3. (Tel.: Deansgate 5455 and 5456.) Quarries at Cheadle, Staffs. (Tel.: Team 241.) And at Longton, Stoke-on-Trent. (Tel.: Longton 32196.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

HULLAND GRAVEL CO., LTD., Cheadle, Stoke-on-Trent. (Tel.: Cheadle 2324, 2119 and 2195.) Manchester Office: 464 Wilbraham Road, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)

PENMAENMAWR AND WELSH GRANITE CO., LTD., all sizes and gradings of crushed granite aggregate. Immediate delivery ex stock.

Liverpool and Preston Depots: Office: 7 Picton Road, Liverpool, 15. (Tel.: Sefton Park 7261.) Manchester Depot: Office: Cornbrook Road, Manchester, 15. (Tel.: Trafford Park 3830.)

TERN MILL SAND AND GRAVEL CO., LTD., Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

TRENTHAM GRAYL CO., LTD., Lordesley Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp sand. Plastering sand. Plant capacity: 2,000 tons per day.

WITHERS LIMESTONE, LTD., Back Lane Quarry, Carnforth. (Tel.: Carnforth 427.) Graded limestone aggregates to B.S.S., all sizes. Immediate delivery ex stock.

X.L. GRANITE (INGLETON), LTD., Head Offices: Clapham, via Lancaster. (Tel.: Clapham 318/9.) Works: Telside, Lancs. (Tel.: 318/9.) All sizes and gradings of Ingleton granite aggregate.

LEICESTERSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London Office: VIGILANT 2530.) Best Leicester-shire grey granite, dry and coated gradings to any specification, color, asphalt and wet mix. Prompt rail/road delivery.

CLIFFE HILL GRANITE CO., LTD., Markfield, near Leicester. (Tel.: Markfield 561/2/3.) Granite aggregates to B.S.S. All sizes. Tanned and bituminous granite, concrete slabs and kerbs. "in. washed granolithic aggregate."

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brighthelm 279 and 298. Duston 505.) (See Northamptonshire.)

ENDERBY AND STONEY STANTON GRANITE CO., LTD., 21 New Walk, Leicester. (Tel.: 20891.) Quarries at Enderby. (Tel.: 20891.) 29 Dorset Square, N.W.1. (Tel.: Amb. 1141.)

LEICESTERSHIRE

HILTON GRAVEL, LTD., Hemington Fields, near Shardlow, Derby. (Tel.: Shardlow 266.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

MOUNTSOREL GRANITE CO., LTD., 21 New Walk, Leicester. (Tel.: 20891.) Quarries at Mountsorel, near Loughborough. "in. pink granite a specialty." London Office: 29 Dorset Sq., N.W.1. (Amb. 1141.)

WANLIP GRAVELS, LTD., Wanlip Road, Syston, Leicestershire. Any size of grading, scientifically balanced ballast. All to B.S.S. (Tel.: Syston 2327 and 2797.)

WREAKE VALEY GRAVELS CO., LTD., Melton Mowbray, Leics. (Tel.: Rotherby 205 or head office Melton 2488.) All grades washed aggregates and sand, tansit mixed concrete.

LINCOLNSHIRE

CONINGSBY SUPPLY CO., LTD., Registered Office: The Broadway, Woodhall Spa, Lincs. (Tel.: Woodhall Spa 2322.) Screened limestone, hardcore, pitching, filling, flint, hoggins.

DOW-MAC (PRODUCTS), LTD., Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 3152.)

GIBBONS, F. B. AND SONS, LTD., Registered Office: Welby House, Market Deeping, near Peterborough. (Tel.: Market Deeping 3321/2383.) Pits at Langtoft, near Peterborough. (Tel.: Market Deeping 2210.) All grades washed sand and aggregates.

HARTSHOLME GRAVEL AND SAND CO., LTD., Hartsholme Wood, Doddington Road, Lincoln. Sole selling agents: Hartsholme Sales, Ltd., 17 West Parade, Lincoln. (Tel.: Lincoln 23391.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

HURDIS, J. W., Victoria Street, Grimsby. (Tel.: Grimsby 3657.) and Caistor (Tel.: Caistor, Lincs., 281.) Building, plastering, concreting sand, also gravel, ballast, hoggins and roadmaking materials.

PETERBOROUGH QUARRIES, LTD., Sandvales, Maxey, Peterborough. (Tel.: Market Deeping 2355—3 lines.) Quarry at Rospely, all grades of hardcore and broken stone. (See also Northants.)

POLLARD, C. AND SON (TALLINGTON), LTD., Waik House, Langford, Lincoln. (Tel.: Market Deeping 2140.) All grades washed sand and aggregates. For "Supercrete" ready mixed concrete, "phone" to Market Deeping 3152.

SCRETON BROTHERS (BARTON-UPON-HUMBER), LTD., 21 Castledyke West, Barton-upon-Humber, Lincs. (Tel.: Barton 2189.) All grades washed sand, roadstone, hardcore, hoggins, washed shingle.

TRENTFORD GRAVELS, LTD., Head Office: Deansgrove, Grimsby. (Tel.: Grimsby 5354.) Washed and graded gravel and sand, roadstone, hardcore, slag, tarmac, ashes, etc. Pits and quarries throughout the county.

LONDON

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

BUCKBRICKS COMPANY, LTD., 57 Piazza Chambers, Covent Garden, London, W.C.2. (Tel.: Covent Garden 0534.) All grades of washed aggregates, sand, building sand, asphalt, 9/2". Superdry sand accurately graded to buyers' requirements.

COX, H. AND SONS, LTD., 33 Southampton Way, Camberwell, S.E.5. (Tel.: Rodney 2215—3 lines.)

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, N.W.3. (Tel.: HAMstead 8044/8.) Granite limestone, pebbles, coated (or dry, all sizes and pitching, granite kerb and setts, felspar quarries and other minerals by road or rail, or ex London stock. Portland, Dorset. (Tel.: Portland 2207/8.) (For details, see Dorset.)

DRINKWATER, W. W. (WILLESDEN), LTD., Dudden Hill Lane, Willesden, N.W.10. (Tel.: GLADEstone 6400/5.) Pits: Rush Green, Denham, Bucks. (Tel.: Denham 2241/2/3.) Also Staines Road, Hounslow Heath, Middlesex. (Tel.: Hounslow 6222/3.)

GABRIEL, C. LTD., Palmers Lane, Enfield, Middx. (Tel.: HOWard 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.

GREENHAM SAND AND BALLAST CO., LTD., Chertsey Road, Feltham. (Tel.: Feltham 2285/7.) Pits at Hounslow, Feltham and Staines. Concrete aggregates, plastering and building sand.

HALL AND CO., LTD., Chantry House, Eccleston Street, S.W.1. (Tel.: Chancery 7122.) and at East Dulwich, Poplar and Wandsworth. Gravel aggregates, concreting, plastering and building sand.

HARTIGAN, G. F. X. LTD., Washed sharp sand to B.S.S. 802. (See Buckinghamshire.)

KEEN, W. J. AND SONS, 18 Granville Road, Epsom, Essex. (Tel.: Epping 2520.) All sands, ballast, shingle and hardcore supplied.

LONDON BALLAST CO., LTD. (Tel.: Paddington 5064.) 155A Porchester Terrace North, Paddington, W.1.

READ, P. T., LTD., Gales Gardens, Bethnal Green, E.2. (Tel.: Shoreditch 9128/9.) All sands, ballast and shingles supplied and delivered; also ready mixed concrete. Pits: Fairlop Airfield, Forest Road, Ilford, Essex. (Tel.: Hainault 6111/2/3.)

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961), Salop.

MIDDLESEX

CROSS, GEO. C. AND CO., LTD., Uxbridge Road, Southall. (Tel.: Southall 2264/5/6.) Concrete aggregates, hardcore, excavations, demolitions.

DRINKWATER, W. W. (WILLESDEN), LTD., Staines Road, Hounslow Hth., Middx. (Hounslow 6222/3.)

GABRIEL, C. LTD., Palmers Lane, Enfield, Middx. (Tel.: HOWard 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.

GREENHAM SAND AND BALLAST CO., LTD., Chertsey Road, Feltham. (Tel.: Feltham 2285/7.) Pits at Hounslow, Feltham and Staines. Concrete aggregates, plastering and building sand.

CONTRACTORS' GUIDE TO AGGREGATES

MIDDLESEX

GRINDON, S., 100/104 Harrington Road, Hillingdon, Middlesex. (Tel.: Uxbridge 3651/2/3.) Sand, ballast, shingle, hardcore, ashes, excavation and demolition.

HALL AND CO., LTD., Chantry House, Eccleston Street, S.W.1 (Tel.: Sloane 7122), and at Ashford and Brentford. Pits: Bedford and Shepperton. Gravel aggregates, concreting, plastering and building sand.

LONDON BALLAST CO., LTD. (Tel.: Paddington 5064), 155A Porchester Terrace North, Paddington, W.2.

THYCKENHAM GRAVEL CO., LTD., Feltham Hill Road, Hanworth (Tel.: Feltham 2638).

NEAL, T., LTD., Gales Gardens, Bethnal Green, E.2. (Tel.: Shoreditch 9128/9.) All sands, ballast and shingles supplied and delivered; also ready-mixed concrete. Pits: Edmonton Gravel Pits, Montagu Road, N.9. (Tel.: Shoreditch 9128/9), and Fairlop Airfield, Forest Road, Ilford. (Tel.: Hainault 6111/2.)

STUART MACKEY, LTD., Gordon Road, High Wycombe. (Tel.: High Wycombe 2591/2.)

MID-WALES

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

NASH ROCKS STONE AND LIME CO., LTD., Prestelgne, Radnor. (Tel.: Prestelgne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Quarries in Radnorshire. (Tel.: Kingston 421.) (See Herefordshire for details.)

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961), Salop.

TERN HILL SAND AND GRAVEL CO., LTD., Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

MONMOUTHSHIRE

MONMOUTHSHIRE ASSOCIATED QUARRIES, LTD., Head Office: 38 Chepstow Road, Newport, Mon. (Tel.: Newport 58311/2.) Suppliers of all grades of concrete aggregates, road metallising, pitching stone, tarmacadam and bituminous macadam in limestone, dolomite and blue pennant stone. Quarries throughout the county.

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

WHITELIFF QUARRIES AND BRICKWORKS, LTD., Cleford, Glos. (Tel.: 3158/9.) (See Gloucestershire.)

MONTGOMERYSHIRE

NASH ROCKS STONE AND LIME CO., LTD., Prestelgne, Radnor. (Tel.: Prestelgne 352.) (See Herefordshire for details.)

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961), Salop.

NORFOLK

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

JOHNSON, P. H., LTD., Station Road, Terrington St. Clement, near King's Lynn. (Tel.: Terrington St. Clement 248.) Washed and screened gravel roadstone, washed sharp and fine sands.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunting. (Tel.: St. Ives 2441/2/3/4 and Coney Weston 12.) Pits at St. Ives and Knettishall, near Thetford.

SNITTERTON STONE QUARRIES, LTD., Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamstead 1208/9.) Pits at Snitterton. Concrete aggregates, building sand.

THORPE GRAVEL PITS, LTD., Harvey Lane, Norwich. (Tel.: Norwich 3324/5.) Washed and graded aggregates, stone and gravel delivered to all parts of Norfolk and Suffolk.

NORTHAMPTONSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

BICESTER STONE CO., LTD., Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 391/2.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.

HAYBROOK, E. W., LTD., Newton Road, Higham Ferrers, Northants. (Tel.: Rushden 3344 and 3345.) All grades of washed and graded aggregates to B.S.S., building sand, hardcore.

All grades of washed aggregates. Building sand. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) Producers of building and walling stone, roadstone, hardcore, broken stone, ashes, sand, gravel and hoggins. Immediate delivery throughout Northamptonshire.

FERRERS AND AGGREGATES, LTD., Northampton Road Quarries, Rushden, Northants. (Tel.: Rushden 2354/5.) Largest producers in the county of all grades of high quality concrete aggregate to B.S.S. Deliveries throughout Northamptonshire and adjoining counties.

GIBBONS, F. B. AND SONS, LTD., Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/2/3/3.) (See Lincolnshire for details.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details see Nottinghamshire.)

KETTON STONE CO. (Prop. Andrew's Garage), Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay, Quarries at Ketton.

MACKANESS, A. J., LTD., Ransome Road, Northampton. (Tel.: Northampton 589.) Producers of all grades of washed aggregates. Building sand. Mixture (lime/sand mortar). Prompt deliveries.

NINE BARGE AND LIGHTER CO., LTD., Market Chambers, Peterborough. (Tel.: 5534/5.) and Ship End Quarries, Wansford, near Peterborough. (Tel.: Wansford 384/5.) Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.

NORTHAMPTONSHIRE

NEWARK (PETERBOROUGH) SAND AND GRAVEL CO., LTD., 127 Eastfield Road, Peterborough. (Tel.: Peterborough 2091.) All grades washed and screened gravel and sand.

PETERBOROUGH QUARRIES, LTD., Sandylands, Maxey, Peterborough. (Tel.: Market Deeping 2355.) Eight quarries supplying all grades of hardcore and broken stone. Also Wetmix at Yarwell, Wansford. All grades gravel and sand at Maxey.

POLLARD, C. AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

STORTON, F. E., LTD., Weedon Road, Northampton. (Tel.: Northampton 3358.) Producers of washed gravel and sand to B.S.S.

NORTH WALES

CAWDO, WHARTON AND CO., LTD., Pistyll Gwyn Quarry, Llanarmon, near Mold. (Tel.: Llanarmon-yn-Ial 27.) Crushed limestone and tarred macadam, all grades.

CHESHIRE AND NORTH WALES TARRED MACADAM CO., LTD., Llanarmon, near Mold. (Tel.: Llanarmon-yn-Ial 43.) Hard, broken limestone; dry and coated to B.S.S. Inquiries to Registered Office—Market Chambers, Tower Square, Tunstall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 8809/4.)

ENSTON BROS., Llwyn Isaf Quarry, 297/8/9. All sizes crushed, washed natural sand and gravel. Highest quality. Precast concrete products, ex our Griffiths Crossing Factory, Caernarvon. (Tel.: Caernarvon 2535/6.) Crushed granite ex our quarry, Pengwern and Gwydyr Quarries, Ltd., Trefriw, Llanrwst, Denbighshire. (Llanrwst 38.)

GWALCHMAI GRANITE QUARRY, Anglesey. Producers: The North Wales Construction Co., Ltd. (Tel.: Gwalchmai 292.) All sizes dry and coated granite materials, hardcore, filling, ready mixed concrete, etc.

PENMAENMAWR AND WELSH GRANITE CO., LTD., Quarries at Penmaenmawr (Tel.: 2256/8), and at Trevor (Tel.: Clynogfawr 223), Caernarvonshire. All sizes and gradings of crushed granite aggregate. Any quantity per day: immediate delivery ex stock. Coated granite also available.

TERN HILL SAND AND GRAVEL CO., LTD., Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

NOTTINGHAMSHIRE

AIZLEWOOD, DOUGLAS E., Bow Bridge, Rotherham. (Tel.: Rotherham 2622.) Crushed and graded limestone: all grades of washed gravel and sands.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

GLEN QUARRIES, LTD., Central Chambers, Wellgate, Rotherham. (Tel.: Rotherham 5223.) Crushed and graded stone, concreting sand, building sand, plastering sand and crushed gravel; could be collected ex quarry or delivered.

GUNTHORPE GRAVELS (1958), LTD. (Tel.: Nottingham 77357; and Works: Lowdham 2131.) An associate company of T. C. Campbell, Ltd. All grades washed gravel and sand to B.S.S.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) Quarries at Hoveringham, Holme Pierrepont, Colwick, Beasby and Newark. Other quarries throughout the country—dealeries in 21 counties. All grades of washed gravel and sand to any specification. Crushed quartzite for surface dressing of roads a speciality. Combined plant capacity 20,000 tons per day.

NEWARK GRAVEL AND CONCRETE CO., LTD., Grove Street, New Balderton, Newark, Notts. (Tel.: Newark 401.) All grades washed sand and aggregates.

NORTH NOTTS. GRAVEL CO., LTD., Bellmoor, Retford, Notts. (See Yorkshire.)

SALISBURY AND WOOD, LTD., Matlock. (Tel.: 272/273.) (For details, see Derbyshire.)

OXFORDSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

BICESTER STONE CO., LTD., Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 391/2.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.

CURTIS, J. AND SONS, LTD., Botley Works, Oxford. (Tel.: Oxford 41081/2/3.) Sand and all grades of washed aggregates. Pits at Radley, near Abingdon. (Tel.: Abingdon 441.)

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: Hampstead 8044/8.) All grades of washed gravel and sand to any specification. Crushed quartzite for surface dressing of roads a speciality. Combined plant capacity 20,000 tons per day.

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) (See Northamptonshire.)

GRUNDON S. (EWELME), LTD., Ewelme, Oxon. (Tel.: Ewelme 20 and 37.) London Office (Tel.: Uxbridge 36511/2/3.) All grades washed aggregates. Path hoggins, broken stone, building sand.

HAINES, H. (WITNEY), LTD., Oxford Road, Witney. (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone. Cotswold sand and gravel works.

HALL AND CO., LTD., Cardiff Road, Reading. (Tel.: 50458.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

SNITTERTON STONE QUARRIES, LTD., Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamstead 1208/9.) Roadstone, Cotswold building and walling stone.

RADNORSHIRE

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

NASH ROCKS STONE AND LIME CO., LTD., Prestelgne, Radnor. (Tel.: Prestelgne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Quarries in Radnorshire. (Tel.: Kingston 421.) (See Herefordshire for details.)

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961), Salop.

RUTLAND

GIBBONS, F. B. AND SONS, LTD., Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/2/3/3.) (See Lincolnshire for details.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

KETTON STONE CO. (Prop. Andrew's Garage), Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay, Quarries at Ketton.

PETERBOROUGH QUARRIES, LTD., Sandylands, Maxey, Peterborough. (Tel.: Market Deeping 2355.) Quarry at Greetham, all grades of broken stone and hardcore. (See also Northamptonshire.)

POLLARD, C. AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

SHROPSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes; coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

DORRINGTON SAND AND GRAVEL QUARRIES, near Shrewsbury. (Tel.: Dorington 276.) Supplies of ready mixed concrete, building sand, washed sand, washed and crushed gravel.

NASH ROCKS STONE AND LIME CO., LTD., Prestelgne, Radnor. (Tel.: Prestelgne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Kingston. (Tel.: 421.) (See Herefordshire.)

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961), Salop.

TERN HILL SAND AND GRAVEL CO., LTD., Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

TRENTHAM GRAVEL CO., LTD., Lordsey Quarries, Willoughbridge, near Market Drayton, Staffs. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twisted washed sharp concreting sand. Plastering sand. Plant capacity: 2,000 tons per day.

SOMERSET

ASHAM QUARRY CO., LTD., Chantry, Frome. (Tel.: Nunney 351.) All sizes limestone block, broken and aggregates. Tarred and bituminous macadam to B.S.S. Ex quarry and delivered.

DANGERFIELD, F. J. AND CO., LTD., 216A Finchley Road, London, N.W.3. (Tel.: Hampstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

HALL AND CO., LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) Gravel aggregates, concreting, plastering and building sand.

NORTH WILTS. QUARRYING CO., Noble Street, Sherston, Wilts. (Tel.: Sherston 321—3 lines.) (For details see entry under Wiltshire.)

WAINWRIGHT, JOHN, AND CO., LTD., Shepton Mallet. (Tel.: Shepton Mallet 2366/7.) All sizes basalt, coated basalt, concrete aggregates, filtering media, building blocks and slabs.

SOUTH SCOTLAND

ESK MANUFACTURING CO., LTD., Cumberland. (Tel.: Carlisle 2-4941.) (For details, see Cumb.)

SOUTH WALES

AMALGAMATED AGGREGATES, LTD., 97 Cowbridge Road East, Cardiff. (Tel.: Cardiff 2524/9.) All sizes crushed and graded aggregate, dry or washed. High calcium or dolomitic limestone, also all grades coated stone. Quarries near Newport, Cardiff, Bridgend, Pontypridd.

HALL AND CO., LTD., 34 High Street, Narberth (Tel.: 74.)

PENMAENMAWR AND WELSH GRANITE CO., LTD., 18 Quay Street, Cardiff. (Tel.: 20646/7.) All sizes and gradings of crushed granite aggregate from our Cardiff and Swansea Dock Depots. Dolomite aggregates from Ewenny, Bridgend.

(Tel.: Bridgend 3786.) Coated stone also available.

SESSIONS AND SONS, LTD., West Dock, Cardiff. Producers of coarse and fine aggregate, dredged and graded to British Standards. Branches Newport and Swansea. (Also Gloucester and Hereford.)

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

SOUTH WALES SAND AND GRAVEL CO., LTD., Head Office: P.O. Box 8, Beaufort Buildings, Swansea. (Tel.: Swansea 53071.) Sand and gravel merchants, builders' merchants, Pennant Quarry owners slag, hardcore, ashes, filling, graded clinker filter media. Depots: Cardiff, Newport, Barry, Port Talbot, Briton Ferry, Swansea, Llanelli.

STAFFORDSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes; coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

CROXEDON GRAVEL, LTD., Cheadle, Stoke-on-Trent, Staffs. (Tel.: Tean 393.) Manchester Office: Blackfriars 3766/7. Plant capacity 2,000 tons per day.

DUNNING AND SON, LTD., Wood End Gravel Pits, Hednesford. (Tel.: Hednesford 302/325/251.) All grades of washed sand and gravel supplied to B.S.S.

HILTON GRAVEL, LTD., Cheadle, Staffs. (Tel.: Tean 241.) Also at Longton, Stoke-on-Trent. (Tel.: Longton 32196) and Stretton, Burton-on-Trent. (Tel.: Burton 6061.)

HULLAND GRAVEL CO., LTD., Cheadle, Stoke-on-Trent. (Tel.: Cheadle 2323/4, 2119 and 2195.) Manchester Office: 464 Wilbraham Road, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)

KEVIN LIME CO., LTD., Oakmoor, Staffs. (Tel.: Oakmoor 385-386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.

CONTRACTORS' GUIDE TO AGGREGATES

STAFFORDSHIRE

RUGELEY GRAVEL CO., LTD., Rugeley Quarries, Rugeley, Staffs. (Tel.: Rugeley 251/2.) Entirely modern plant. Sand classifiers. Finest aggregates to B.S.S. Large output.

SALISBURY AND WOOD, LTD., Matlock. (Tel. 272/273.) (For details, see Derbyshire.)

SHIRE OAK GRAVELS, LTD., Litchfield Road, Walsall Wood, Staffs. Washed crushed gravel and washed sand. (Tel.: Brownhills 3253.)

TERN HILL SAND AND GRAVEL CO., LTD., Alminston Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) Pit sand, concrete sand, and all grades of washed crushed gravel. Hardcore, clinkers, ashes and hoggins.

TRENTHAM GRAVEL CO., LTD., Lordsley Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plant capacity 2,000 tons per day.

WARDLOW LIMESTONE, LTD., Caudon Low, N. Staffs. (Tel.: Oakmoor 366.) Graded limestone for all purposes. Ground limestone.

WINDMILL SAND AND GRAVEL QUARRIES, LTD., Cannock Road, Wolverhampton. (Tel. 31108.) Concrete aggregates, plastering, building and asphalt sand. All to B.S.S.

SUFFOLK

ALRESFORD SAND AND BALLAST CO., LTD., Alresford Creek, near Colchester, Essex. (Tel.: Wivenhoe 341/494.) Suffolk area pits at Bures and Boxford. All grades washed aggregate, sand; also hoggins.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

DICKERSON, M. (CONTRACTORS), LTD., Gloucester Street, Cambridge. (Tel.: Cambridge 56973/4.) (See Cambs.)

HALL AND CO., LTD., West End Road, Ipswich. (Tel.: Ipswich 5593/4.) Pits at Kesgrave and Homersfield, near Harleston. Gravel aggregates, concreting, plastering and building sand.

MACLAREN BROS. (KENNETT), LTD., Station Road, Kennett, Cambs. (Keniford 333/4.) (See Cambs.)

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4, Coney Weston 12 and Halstead 2323.) Pits at St. Ives, Knettishall, near Thefford, and Gosfield, near Halstead. (See Norfolk.)

THORPE GRAVEL PITS, LTD., Harvey Lane, Norwich. (Tel.: Norwich 33243/4.) (See Cambs.)

WEBB, G. CAMBRIDGE, 35 Magrath Av., Cambridge. (Tel. 59966, 53969, 50353 (night)). (See Cambs.)

SURREY

COFF, HARRY A., LTD., Buckhurst Hill, Cheapside, Ascot, Berks. (Tel.: 0267.) (See Berkshire.)

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

EASTWOOD SALES, LTD., Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 2040.) Lonside Sand and Ballast Pit, Thorpe, nr. Egham. (Tel.: Egham 3121.) Runfold Sand and Ballast Pit, Runfold, nr. Farnham, Surrey. (Tel.: Runfold 2020.) Producers and distributors of all grades of washed aggregates.

HALL AND CO., LTD., Victoria Wharf, Croydon. (Tel.: Croydon 4444.) Other main depots at Coulsdon, Epsom, Mitcham, Otford, Purley, Redhill, Tadworth and Woking. Pits at Send and Redhill. Gravel aggregates, concreting, plastering and building sand. Surecrete precision-mixed concrete.

HARRIS, M. P. AND CO., LTD., Kingston Road, Leatherhead, Surrey. (Tel.: 3497.) (See Sussex.)

JANES AND CO., LTD., 2C Buckingham Avenue, Slough, Sand, aggregates, hardcore, ashes, bulldozing & bulk excavation. (Tel.: Slough 20361/2/3.)

LONDON BALLAST CO., LTD., (Tel.: Paddington 5064., 155A Portchester Terrace North, Paddington, W.2.)

MARCO (AGGREGATES), LTD., Pit: Norlands Lane, Thorpe, near Egham. (Tel.: Chertsey 3401.) Producers and distributors of high-grade washed sand, shingle, ballast, etc.

MARCO (CROYDON), LTD., Hampton Road, West Croydon. (Tel.: Thornton Heath 4236/7/8.) All building and road aggregates.

SURREY

MIDLAND AGGREGATES, LTD., Eversley, near Basingstoke, Hants. (Tel.: Eversley 2250.) Washed and pit sand and all aggregates.

TWICKENHAM GRAVEL CO., LTD., Government Road, Ash Vale. (Tel. 2349.)

WELLS, A. L. AND SON, LTD., Builders' Merchants, Garlands Road, Leatherhead. (Tel. 3018/9.) Sand aggregates, hardcore, ashes, cement. Clinker block manufacturers.

WINTON, WM. R. LTD., Send, Woking. (Tel.: Ripley 2454/5.) All grades sand, shingle, ballast, hoggins and ashes. Clinker block manufacturers.

SUSSEX

AVANN, F., Cavendish Avenue, Eastbourne. (Tel. 4969/70.) Washed and graded ballast, sand, bricks, breeze and concrete blocks, hardcore, clinker, tarmac, etc., supplied.

HALL AND CO., LTD., 16 Chapel Road, Worthing. (Tel.: Worthing 7840.) Other main depots at Boxhill, Bognor, Crowborough, East Grinstead, Eastbourne, Horsham, Hove and Seaford. Pits at Washington, Crumles, near Eastbourne, Chichester, Rye Harbour, Midhurst, Shoreham and Portslade. Gravel aggregates, concreting, plastering and building sand. Surecrete precision-mixed concrete.

HARRIS, M. P. AND CO., LTD., West Station Goods Yard, Boxhill (Tel. 61), Cavendish Place, Eastbourne (Tel. 3800); Dominion Road, Worthing (Tel. 8822); Whitbread Lane, Northiam (Tel. 2211); Station Goods Yard, Haywards Heath (Tel. 1750); Crawley Road, Horsham (Tel. 3366); The Horner, Chichester (Tel. 4181). All grades aggregates, hardcore, clinker, ashes, etc.

WRIGHT, C. AND SONS (B'TON), LTD., 19 Bristol Gardens, Brighton. (Tel.: Brighton 63357 and 62406.) All-in ballast, washed and crushed shingle, sand, ashes, hardcore, chalk, bricks, etc.

WARWICKSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 302.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621, and wett-mix; large output; reliable deliveries.

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) (See Northamptonshire.)

HAINES, H. (WITNEY), LTD., Oxford Road, Witney. (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone. Cotswold building and walling stone.

HALL AND CO., LTD., 188 Lichfield Road, Four Oaks, Sutton Coldfield. (Tel.: Four Oaks 356.) Gravel aggregates, concreting, plastering, building sand.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

JUDKINS, LTD., Granite Quarries, Tuttle Hill, Nuneaton. (Tel.: Nuneaton 3411—10 lines.) All sizes washed granite aggregate, tared and bituminous macadam. Slab mix a speciality.

KEVIN LIME CO., LTD., Oakmoor, Staffs. (Tel.: Oakmoor 385/386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

SHIRE OAK GRAVELS, LTD. (See Staffordshire.)

WARDLOW LIMESTONE, LTD., Caudon Low, N. Staffs. (Tel.: Oakmoor 366.) (For details, see Staffs.)

WARWICKSHIRE QUARRIES, LTD., Bedworth Road, Nuneaton. (Tel.: Coventry 67521.) Red shale, screened for roads, car parks, sports grounds, tennis courts, etc., attractive colour.

WESTMORLAND

BROOMBYS, LTD., Sandside, Milnthorpe, Westmorland. (Tel.: Milnthorpe 3251/2.) All grades washed, crushed gravel, sand, limestone, granite chippings, pitching, tarmac, hardcore, rockery stone, etc.

ESK MANUFACTURING CO., LTD., Cumberland. (Tel.: Carlisle 2-4941.) (For details, see Cumb.)

WILTSHIRE

BULL BROS. S. AND L. LTD., 126A High Street, Winchester. (Tel. 2264.) (See Hampshire.)

COKE, T. F. (CHELTENHAM), LTD., 267 Gloucester Road, Cheltenham. (Tel. 4717/4874.) (See Glos.)

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

WILTSHIRE

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

MOREYS (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggins, path gravel.

NORTH WILTS. QUARRYING CO., Noble Street, Sherston, Wilts. (Tel.: Sherston 321—3 lines.) Building and terrace walling stone, crazy paving and stone roofing tiles.

TAYMAC, LTD., Wootton Bassett, near Swindon, Wilts. (Tel.: Wootton Bassett 391—5 lines.) Cotswold stone, hardcore, washed and graded aggregates, building sand.

WORCESTERSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 302.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621, and wett-mix; large output; reliable deliveries.

BENGRI AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

KEVIN LIME CO., LTD., Oakmoor, Staffs. (Tel.: Oakmoor 385/386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Kingsland, Herefordshire. (Tel.: 421.) (See Herefordshire.)

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

YORKSHIRE

AIZLEWOOD, DOUGLAS E., Bow Bridge, Rotherham. (Tel.: Rotherham 2622.) Crushed and graded limestone; all grades of washed gravel and sand.

DENNIF, ALAN S., LTD., Kiveton Park, nr. Sheffield. (Tel.: Kiveton 445/7/8.) Truck-mixed and wett-mixed concrete, washed and crushed gravel, concreting sand, bldg. sand, crushed and graded stone.

GLEN QUARRIES, LTD., Central Chambers, Wellesbourne, Rotherham. (Tel.: Rotherham 5223.) Crushed and graded stone, concreting sand, building sand, plastering sand and crushed gravel; could be collected ex quarry or delivered.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

MELSUM (CONTRACTORS), LTD., Grange Lane, Stairfoot, near Barnsley. (Tel.: Barnsley 3820.) Red shale, hardcore, topsoil. Plant hire, dumper trucks.

NORTH NOTTS. GRAVEL CO., LTD., Belmoor, Retford, Notts. (Tel.: Retford 2219—3 lines.) Concrete aggregate and sands, quarries chippings, building sands. Quarries at Belmoor and Lound, near Retford and Workson. Truck-mixed concrete plants at Retford and Workson. Notts., Ossett, Yorks. and Wath-on-Dearne, Yorks.

SALISBURY AND WOOD, LTD., Matlock. (Tel. 272/273.) (For details, see Derbyshire.)

SLATER BROS. (WHITLEY), LTD., Whitley Bridge, near Goole. (Tel.: Whitley Bridge 300 and 314.) Washed and crushed gravel. Concreting sand, building sand, crushed and graded stone, natural white stone for crazy paving, terrace walls & house building.

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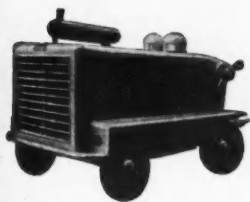
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